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ABSTRACT

An evaluation was conducted to determine if there were any statistically significant, educationally meaningful, and longitudinally consistent effects on student achievement of the Ten Schools Program (TSP) after controlling for the effects of socioeconomic status and level of English proficiency. The TSP was designed to improve the academic achievement of minority students in 10 selected schools with 60% or more black student enrollment and the lowest academic achievement through implementation of effective research-based strategies to meet the specific needs of minority students. The analysis of 4 years of student achievement data for TSP schools and comparison schools and a review of 8 years of achievement data for four cohorts from grades 1 to 5 show that, after adjusting for socioeconomic status and level of English proficiency, the TSP students scored significantly higher than comparison students on two types of achievement test. The differences were statistically significant, educationally meaningful, and longitudinally consistent over time. This was true for all grades and subject areas. Findings clearly demonstrate the positive influence of the TSP on student achievement. Four appendixes contain tables and figures containing standardized test results. (Contains 13 tables, 12 figures, 19 references.) (SLD)

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ED 429 160

Real educational intervention makes a real difference

Academic Achievement in the Ten Schools Program: A Success Story of Educational Innovation in LAUSD, 1987-95

Publication No. 642
April 1996

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April 1996

Table of Contents

Title	Page
Table of Contents	iii
List of Tables	iv
List of Figures	v
Executive Summary	vi
Background	1
Study Objectives	2
Study Design	2
Study Results	
Socioeconomic Status	4
English Language Proficiency	4
Ten Schools Program Effect	5
Achievement Trends	14
References	27
Appendix-A (CTBS/U Tables)	29
Appendix-B (Aprenda Tables)	45
Appendix-C (CTBS/U Figures)	61
Appendix-D (Aprenda Figures)	76

List of Tables

Table		Page
Table 1.	Ten Schools Program and Comparison Schools' CTBS/U Reading Mean Scores and Their Differences for Similar Cohorts Over Time	7
Table 2.	Ten Schools Program and Comparison Schools' CTBS/U Mathematics Mean NCE Scores and Their Differences for Similar Cohorts Over Time	8
Table 3.	Ten Schools Program and Comparison Schools' CTBS/U Language Mean NCE Scores and Their Differences for Similar Cohorts Over Time	9
Table 4.	Ten Schools Program and Comparison Schools' Aprenda Reading Mean Scores and Their Differences for Similar Cohorts Over Time	10
Table 5.	Ten Schools Program and Comparison Schools' Aprenda Mathematics Mean NCE Scores and Their Differences for Similar Cohorts Over Time	11
Table 6.	Ten Schools Program and Comparison Schools' Aprenda Language Mean NCE Scores and Their Differences for Similar Cohorts Over Time	12
Table 7.	Aggregated and Adjusted Mean Differences Between Ten Schools Program and Comparison Schools Over 4 Years	13

List of Figures

Figure ..... Page

Figure 1. CTBS/U Reading Achievement Percentile Scores, First Cohort 15

Figure 2. CTBS/U Mathematics Achievement Percentile Scores, First Cohort 16

Figure 3. CTBS/U Language Arts Achievement Percentile Scores, First Cohort 17

Figure 4. CTBS/U Reading Achievement Percentile Scores, Second Cohort 18

Figure 5. CTBS/U Mathematics Achievement Percentile Scores, Second Cohort 19

Figure 6. CTBS/U Language Arts Achievement Percentile Scores, Second Cohort ... 20

Figure 7. CTBS/U Reading Achievement Percentile Scores, Third Cohort 21

Figure 8. CTBS/U Mathematics Achievement Percentile Scores, Third Cohort 22

Figure 9. CTBS/U Language Arts Achievement Percentile Scores, Third Cohort 23

Figure 10. CTBS/U Reading Achievement Percentile Scores, Fourth Cohort 24

Figure 11. CTBS/U Mathematics Achievement Percentile Scores, Fourth Cohort 25

Figure 12. CTBS/U Language Arts Achievement Percentile Scores, Fourth Cohort 26

Executive Summary

This evaluation sought to determine if there were any statistically significant, educationally meaningful, and longitudinally consistent effects on student achievement in Ten School Program (TSP), after statistically controlling the possible impact of socioeconomic status and level of English proficiency. Four years of achievement data (1991-92 to 1994-95) for the Ten Schools Program and a set of similar (Comparison) schools were analyzed to answer this question. Trends were also examined using 8 years of achievement data with four cohorts from grade one to grade five. The most prominent findings of this longitudinal study are:

- Socioeconomic status (SES) and level of language proficiency were powerful predictors of achievement. (See Tables in Appendix A for CTBS/U data, and in Appendix B for Aprenda.). This means any study of student achievement should control the impact of these intervening factors before making any judgement on a particular program effect on achievement.
- After adjusting for SES and level of English proficiency effects, the TSP students scored significantly higher than Comparison students on both the CTBS/U and Aprenda. The differences were statistically significant, educationally meaningful, and longitudinally consistent over time. (See Tables in Appendix A for CTBS and Appendix B for Aprenda.) This was true for all grades and subject areas.

- Although TSP students initially scored the same as or lower than Comparison students, the TSP achievement trend is generally upward especially for lower grades (grades one to three), while the trend of achievement for Comparison schools is generally downward even for the lower grades (Figures 1 through 12).
- The sharp drop in achievement at fourth grade can be partially explained by the large number of Limited English Proficient (LEP) students taking the CTBS/U for the first time.
- The gap between TSP and Comparison achievement increases over time especially for the lower grades. (See Figures C-1 to C-15 in Appendix C, and Figures D-1 through D-15 Appendix D.)

Findings from this study clearly emphasize the positive influence of the Ten Schools Program on student achievement. Programs that are based on proven educational theories can produce significant and powerful educational results. Based on the results of this study, TSP is one the most successful integration programs in LAUSD. The results support the continuation, enhancement, and expansion of this type of research-based program. There is need for a field study to identify and correlate the impact of the various components of this program on achievement.

Academic Achievement in the Ten Schools Program: A Success Story of Educational Innovation in LAUSD

Background

The Los Angeles Unified School District's Ten Schools Program (TSP) was designed to improve the academic achievement of minority students in 10 selected schools with 60% or more Black student enrollment and the lowest academic achievement. It was designed to address all aspects of the instructional program at each of the 10 participating schools.

The major components of TSP are:

- The administrative and instructional staff would be selected according to specific criteria for educational excellence.
- The specific needs of minority students would be addressed through the implementation of effective research-based instructional strategies.
- Teachers and staff members would be involved in the decisions on teacher selection, staff development, and instructional planning.
- Parents and community members would be involved in all aspects of the schooling process, including teacher selection, and instructional planning.
- Average achievement scores were expected to reach the 50th percentile on District-approved standardized tests after 5 years in the program.

To determine the success of the TSP, a multiphase evaluation plan was designed by the **Ten Schools Program Evaluation Planning Team** (EPT) in 1987, and TSP implementation and progress were evaluated extensively by the EPT from 1987 to 1992 (see References). However, none of the previous studies controlled the impact of socioecnomic status (SES)and English proficiency on achievement. The present study indicates the effect of the TSP program on student's

achievement after the effects of SES and English proficiency on achievement are controlled.

Research Questions

1. Are there statistically significant, pedagogically meaningful, and longitudinally consistent academic effects for Ten Schools Program after controlling for student socioeconomic status and level of English proficiency?

2. Are achievement trends for Ten Schools Program students the same as for those in Comparison Schools?

Study Design

The Analysis of Covariance (ANCOVA) used in this study allows for: (a) controlling the effects of socioeconomic status, and level of English Proficiency; (b) measuring TSP and Comparison Schools achievement after controlling for SES, and proficiency in English; and (c) examining the interaction between program type and time.

There is abundant literature in education indicating the significant and powerful impact of socioeconomic status (SES) and English proficiency on academic achievement. In any quasi-experimental study of the effectiveness of the educational program, where a random assignment of individuals is not possible, controlling the effects of these two dominant factors is crucial in judging the effectiveness of a program to improve academic achievement. In this study, the effects of these two factors were mathematically removed to gain a clearer picture of academic achievement.

Comparison Schools were chosen on a number of variables including geographical location,

SES, and initial or preprogram level of student achievement.

To examine the longitudinal consistency of the program impact, 4 years of achievement scores in reading, mathematics, and language arts were complied from the Comprehensive Tests of Basic Skills (CTBS/U) for English speaking students, and Aprenda for Spanish speaking students. Although some data were available for the six graders in the previous year, TSP schools at present are limited to grades one through five. Therefore in this study we included only grades one to five. For statistical analysis we included only the same grade for 4 years, 1991-92 to 1994-95 (Tables A-1 to B-30 in Appendices A & B, and Figures C-1 to D15 in Appendices C & D). Year and group (TSP and Comparison Schools) were the two main independent factors in the analyses.

We also reviewed data for similar cohorts. Data for this type of comparison are presented in Tables 1-8 and Figures 1-15. (Cohorts are defined as progressive grades for a year. For example, first grade students in 1992-93 and second grade students for 1993-94. It is important to note that, while majority of students are the same, the two groups are not exactly identical.)

Results

Socioeconomic Status and English Proficiency

Socioeconomic status. Statistically limiting the impact of family SES on achievement increases the probability of attributing the statistically significant differences to the impact of the Ten School Program. ESEATitle I/Chapter 1 membership was used to indicate the socioeconomic status (SES) of the students. Analysis of Covariance (ANCOVA) limits the impact of SES when comparing student achievement across groups or over time. SES was a highly significant predictor of achievement as measured by CTBS/U over time and for all grades. (See ANCOVA Summary Tables for CTBS data in Appendix A.)

Although SES was a significant predictor of achievement as measured by Aprenda (in 26 of 30 analyses), it was not as powerful a predictor because the majority of limited English speaking students tend to come from poor families with a similar SES. (See ANCOVA Summary Tables in Appendix B.)

English proficiency. Controlling the impact of home language on student academic achievement gives a clearer picture of the effect of TSP on achievement. The English proficiency level (being a Limited English Proficient student or not) was used as a covariate in this study to control the impact of home language on achievement as measured by CTBS/U. This variable was a strong predictor of achievement in nearly all of the analyses. (See ANCOVA summary tables in Appendix A.)

Ten Schools Program Effects

CTBS/U and Aprenda data were used to examine the impact of the Ten Schools Program (TSP) on student achievement. ANCOVA was used to test for significant, consistent, and meaningful differences between TSP and Comparison achievement after controlling for the effects of SES and level of English proficiency.

There were highly statistically significant differences between mean scores for reading, mathematics, and language arts as measured by both CTBS/U and Aprenda after controlling for the effects of SES and English proficiency across five grades over 4 years. The differences between TSP and Comparison student achievement are statistically significant beyond any doubt (statistically speaking, the above-chance value exceeds 99%; see tables in Appendices A & B).

In all analyses of the achievement data based on CTBS/U and Aprenda results, TSP students outperformed Comparison students in all subject areas over time and in all grades, without exception. Tables A-1 through A-30 (CTBS/U data) and B-1 through B-30 (Aprenda data) present means of achievement for reading, mathematics, and language arts for grades one through five for 4 continuous years, and a summary of the ANCOVAs.

To examine the consistency of mean differences over time we also compared achievement progress of similar cohorts. (See similar cohorts definition on page 3.).

Tables 1 through 6 present the differences between TSP and Comparison in students reading, mathematics, and language arts for four cohorts over time. Students from the TSP scored significantly higher than Comparisons in all three areas tested.

Tables 7 presents the combined (aggregated) mean differences over 4 years between TSP and Comparison schools for reading, mathematics, and language arts after removing the effects of

SES and English proficiency (adjusted). The impact of the program is strong for all grades, with the exception of fourth and fifth grade reading. There are two possible explanations for reduction in reading achievement at fourth grade: (1) a large number of LEP (Limited English Proficient) students taking CTBS/U for the first time, and (2) change in the difficulty level of CTBS/U, because of test level changes from third to fourth grade.

The magnitude of these aggregated mean differences between TSP and Comparison schools is an educational accomplishment rarely seen in the literature.

Table 1
Ten Schools Program and Comparison Schools' CTBS/U Reading Mean NCE Scores and Their Differences for **Similar Cohorts** Over Time

Cohort		Year			
		1991-92	1992-93	1993-94	1994-95
Fourth Cohort	**Grade**	**1st**	**2nd**	**3rd**	**4th**
	Mean Ten Schools Program	43.59	36.43	35.82	31.20
	Mean Comparison Schools	33.37	29.18	28.72	26.82
	Difference Score	10.22	7.25	7.10	4.38
Third Cohort	**Grade**	**2nd**	**3rd**	**4th**	**5th**
	Mean Ten Schools Program	36.10	36.00	31.37	35.37
	Mean Comparison Schools	31.13	32.02	27.03	32.14
	Difference Score	4.97	3.98	4.34	3.23
Second Cohort	**Grade**	**3rd**	**4th**	**5th**	
	Mean Ten Schools Program	35.85	29.94	33.68	
	Mean Comparison Schools	30.56	28.88	32.15	
	Difference Score	5.29	1.06	1.53	
First Cohort	**Grade**	**4th**	**5th**		
	Mean Ten Schools Program	30.03	34.44		
	Mean Comparison Schools	28.70	32.06		
	Difference Score	1.33	2.38		

Table 2
Ten Schools Program and Comparison Schools' Mathematics CTBS/U Mean NCE Scores and Their Differences for **Similar Cohorts** Over Time

Cohort		Year			
		1991-92	1992-93	1993-94	1994-95
Fourth Cohort	**Grade**	**1st**	**2nd**	**3rd**	**4th**
	Mean Ten Schools Program	49.90	46.66	43.99	44.48
	Mean Comparison Schools	40.92	37.19	30.72	34.08
	Difference Score	8.98	9.47	13.28	10.40
Third Cohort	**Grade**	**2nd**	**3rd**	**4th**	**5th**
	Mean Ten Schools Program	52.07	43.18	43.42	47.4
	Mean Comparison Schools	40.38	34.94	34.51	38.44
	Difference Score	11.69	8.24	8.91	8.96
Second Cohort	**Grade**	**3rd**	**4th**	**5th**	
	Mean Ten Schools Program	46.11	41.83	43.68	
	Mean Comparison Schools	33.81	35.10	35.87	
	Difference Score	12.3	6.73	7.81	
First Cohort	**Grade**	**4th**	**5th**		
	Mean Ten Schools Program	42.26	45.68		
	Mean Comparison Schools	36.16	38.28		
	Difference Score	6.10	7.40		

Table 3
Ten Schools Program and Comparison Schools' Language CTBS/U Mean NCE Scores and Their Differences for **Similar Cohorts** Over Time

Cohort		Year			
		1991-92	1992-93	1993-94	1994-95
Fourth Cohort	**Grade**	**1st**	**2nd**	**3rd**	**4th**
	Mean Ten Schools Program	49.13	40.53	40.45	37.25
	Mean Comparison Schools	40.84	31.21	25.93	28.55
	Difference Score	8.29	9.32	14.52	8.7
Third Cohort	Grade	2nd	3rd	4th	5th
	Mean Ten Schools Program	41.20	40.02	37.35	41.94
	Mean Comparison Schools	32.36	30.13	29.23	33.12
	Difference Score	8.84	9.89	7.87	8.82
Second Cohort	**Grade**	**3rd**	**4th**	**5th**	
	Mean Ten Schools Program	39.30	36.67	39.44	
	Mean Comparison Schools	27.96	30.48	32.20	
	Difference Score	11.34	6.19	7.24	
First Cohort	**Grade**	**4th**	**5th**		
	Mean Ten Schools Program	37.33	41.60		
	Mean Comparison Schools	30.80	33.48		
	Difference Score	6.53	8.12		

Table 4

Ten Schools Program and Comparison Schools' Aprenda Reading Mean NCE Scores and Their Differences for **Similar Cohorts** Over Time

Cohort		Year			
		1991-92	1992-93	1993-94	1994-95
Fourth Cohort	**Grade**	**1st**	**2nd**	**3rd**	**4th**
	Mean Ten Schools Program	45.55	49.69	45.87	46.99
	Mean Comparison Schools	32.40	35.04	38.69	38.43
	Difference Score	13.15	14.65	7.18	8.56
Third Cohort	**Grade**	**2nd**	**3rd**	**4th**	**5th**
	Mean Ten Schools Program	46.44	43.38	45.54	43.25
	Mean Comparison Schools	35.51	38.72	41.35	41.56
	Difference Score	10.93	4.66	4.19	1.69
Second Cohort	**Grade**	**3rd**	**4th**	**5th**	
	Mean Ten Schools Program	44.14	46.14	41.88	
	Mean Comparison Schools	38.70	39.84	41.27	
	Difference Score	5.44	6.30	0.61	
First Cohort	**Grade**	**4th**	**5th**		
	Mean Ten Schools Program	46.37	41.23		
	Mean Comparison Schools	39.24	41.32		
	Difference Score	7.13	-0.07		

Table 5

Ten Schools Program and Comparison Schools' Mathematics Aprenda Mean NCE Scores and Their Differences for **Similar Cohorts** Over Time

Cohort		Year			
		1991-92	1992-93	1993-94	1994-95
Fourth Cohort	**Grade**	**1st**	**2nd**	**3rd**	**4th**
	Mean Ten Schools Program	46.12	46.97	43.81	43.14
	Mean Comparison Schools	35.63	34.17	36.10	30.97
	Difference Score	10.49	12.80	7.71	12.17
Third Cohort	**Grade**	**2nd**	**3rd**	**4th**	**5th**
	Mean Ten Schools Program	47.58	42.18	41.55	36.16
	Mean Comparison Schools	34.17	35.77	32.58	33.73
	Difference Score	13.41	6.41	8.97	2.43
Second Cohort	**Grade**	**3rd**	**4th**	**5th**	
	Mean Ten Schools Program	43.61	42.00	33.13	
	Mean Comparison Schools	34.14	30.42	31.01	
	Difference Score	9.47	11.58	2.12	
First Cohort	**Grade**	**4th**	**5th**		
	Mean Ten Schools Program	42.00	33.67		
	Mean Comparison Schools	33.67	32.34		
	Difference Score	8.33	1.33		

Table 6

Ten Schools Program and Comparison Schools' Language Aprenda Mean NCE Scores and Their Differences for **Similar Cohorts** Over Time

Cohort		Year			
		1991-92	1992-93	1993-94	1994-95
Fourth Cohort	**Grade**	**1st**	**2nd**	**3rd**	**4th**
	Mean Ten Schools Program	50.26	53.57	49.99	50.35
	Mean Comparison Schools	39.12	38.08	41.56	38.14
	Difference Score	13.14	15.49	8.436	12.21
Third Cohort	**Grade**	**2nd**	**3rd**	**4th**	**5th**
	Mean Ten Schools Program	48.66	48.13	46.99	39.13
	Mean Comparison Schools	35.95	40.29	40.27	35.84
	Difference Score	12.71	7.84	6.72	3.29
Second Cohort	**Grade**	**3rd**	**4th**	**5th**	
	Mean Ten Schools Program	47.13	48.94	37.31	
	Mean Comparison Schools	40.10	41.03	35.91	
	Difference Score	7.036	7.91	1.40	
First Cohort	**Grade**	**4th**	**5th**		
	Mean Ten Schools Program	48.46	35.71		
	Mean Comparison Schools	41.22	34.28		
	Difference Score	7.243	1.43		

Table 7.

Aggregated and Adjusted CTBS Mean Differences Between Ten Schools Program and Comparison Schools Over 4 Years

	Subject	Grade				
		1st	**2nd**	**3rd**	**4th**	**5th**
CTBS/U	Reading	12.78	8.17	6.11	3.16	3.26
	Mathematics	12.3	14.16	12.25	8.22	8.8
	Language Arts	9.33	11.66	12.89	7.8	8.8
Aprenda	Reading	14.37	14.75	6.08	6.70	2.20
	Mathematics	14.38	14.40	7.70	10.33	2.90
	Language Arts	13.93	14.06	7.79	8.59	3.07

Note. All differences are in favor of the TSP program.
Aggregated means combined over 4 years.
Adjusted means after controlling for the effects of SES and English Proficiency.

Achievement Trends

Figures 1 through 12 depict the trend of achievement for Ten Schools Program and Comparison schools over 5 years for four **similar cohorts** from grade 1 to grade 5 on reading, mathematics, and language arts. Figures C-1 through D-15 present the trend of achievement for the **similar grade** over 4 years for TSP and Comparison schools. These figures present a relatively complex picture for achievement in the TSP.

Figures for the first similar cohort (Figure 1 through 3) include the baseline data for 1987-88. Figures for similar cohorts 2, 3, and 4 (Figure 4 through 12) include students who have been in the TSP since kindergarten. These figures indicate that:

- TSP achievement initially was the same as or below Comparison schools achievement (see Figures 1 through 3).
- For the first cohort, the achievement level of students from comparison schools for cohort 1 either stays the same or declines from grade one to grade five, whereas the level of achievement for TSP students improves over time for all three subjects, especially mathematics (Figures 1 through 3).
- For cohorts 2, 3, and 4, the level of achievement for TSP first graders is consistently higher than for first grade students in Comparison school. This is an indication that Kindergarten instruction at TSP has a positive impact on student achievement (Figures 4 through 12).
- The level of achievement at third and especially fourth grade is minimal, probably due to the large number of Limited English Proficient (LEP) students taking CTBS/U for the first time.
- Although the difference between TSP and Comparison students decreases over time, TSP achievement stays higher for all four grades included over time and for all subject areas (Figures C-1 through C-15 for CTBS/U in Appendix C, and Figures D-1 through D-15 for Aprenda in Appendix D).

CTBS/U Reading Achievement Percentile Scores

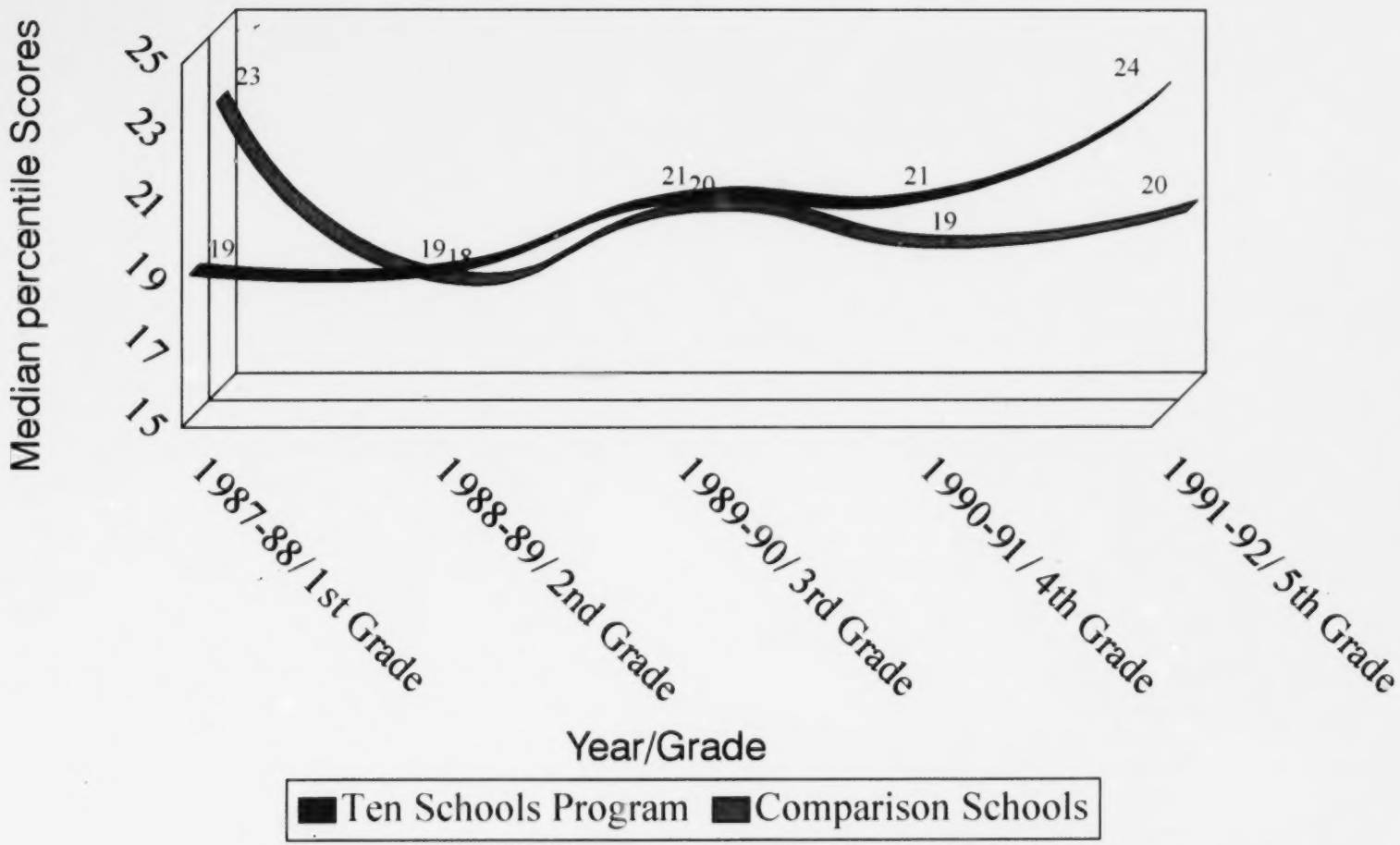

Figure 1.

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CTBS/U Mathematics Achievement Percentile Scores

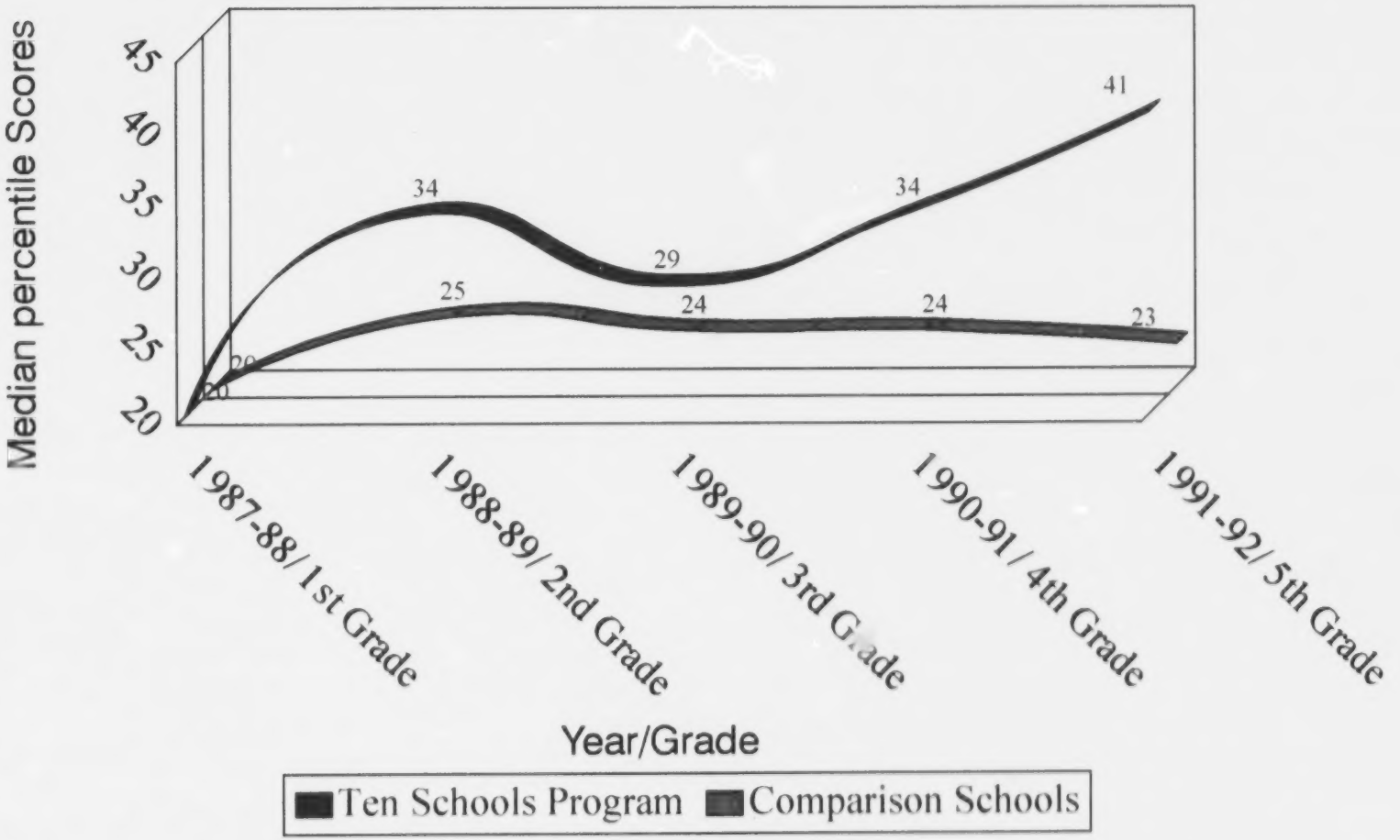

Figure 2.

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CTBS/U Language Arts Achievement Percentile Scores

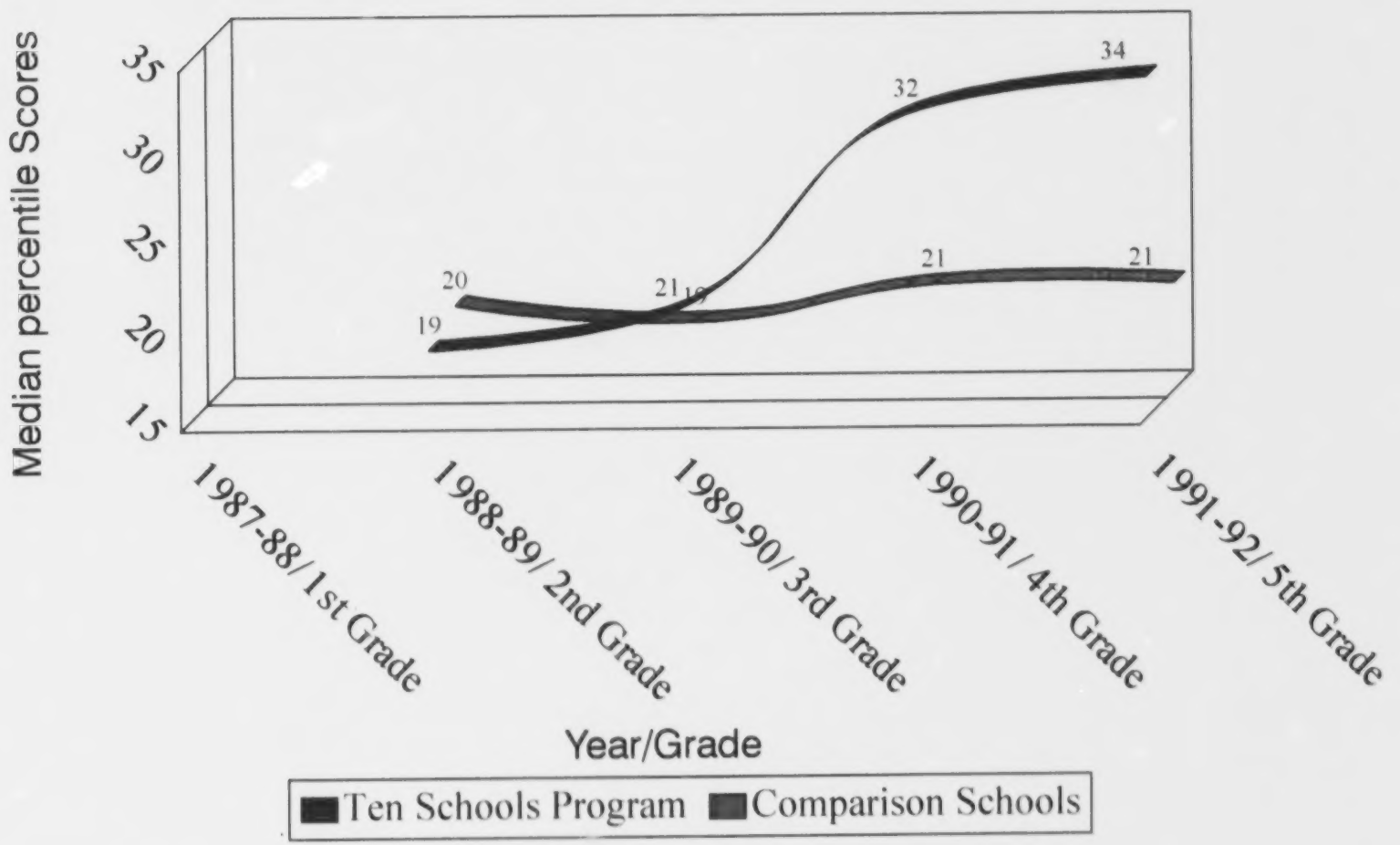

Figure 3. (No data were available for 1987-88.).

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CTBS/U Reading Achievement Percentile Scores

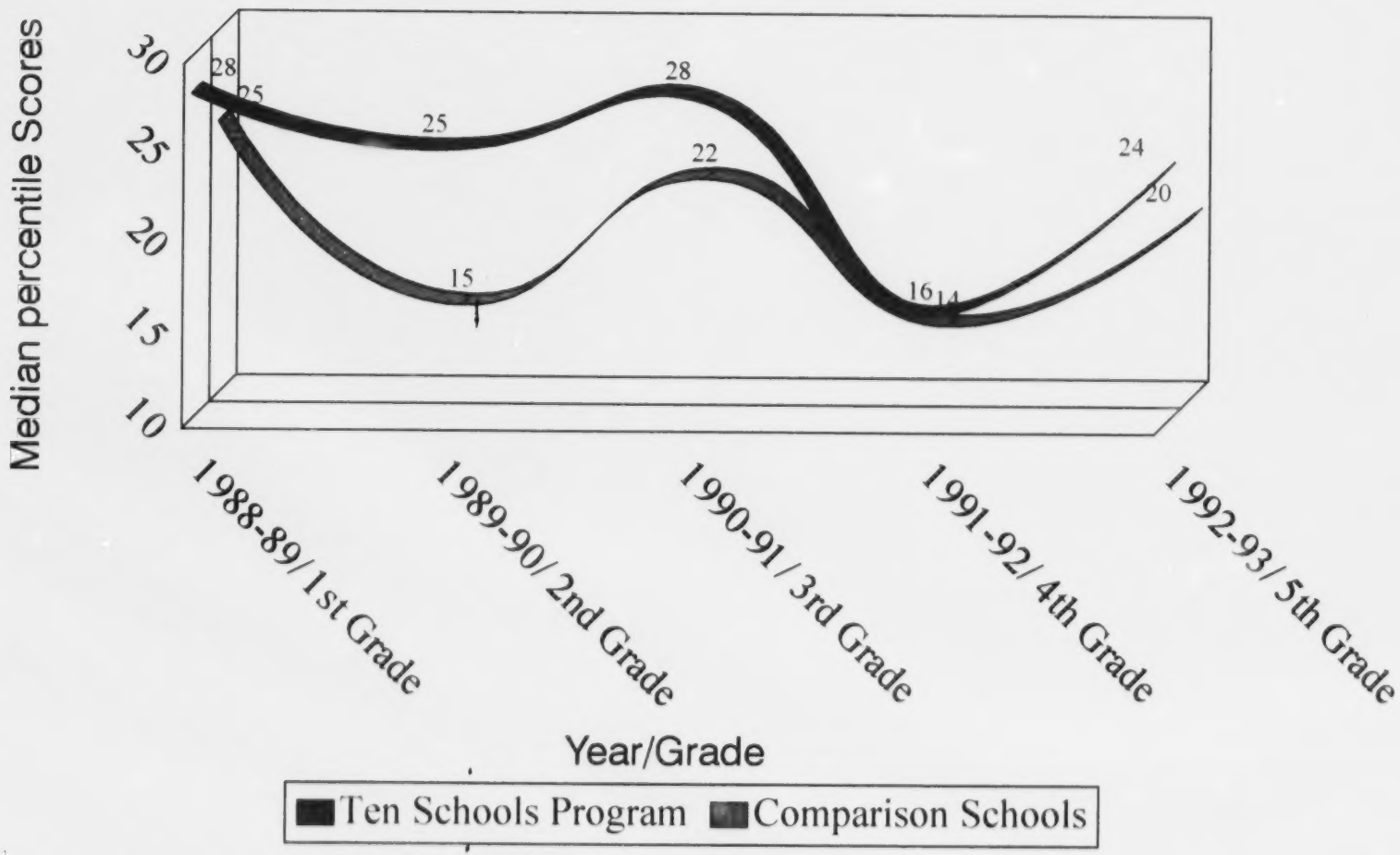

Figure 4.

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CTBS/U Reading Mathematics Percentile Scores

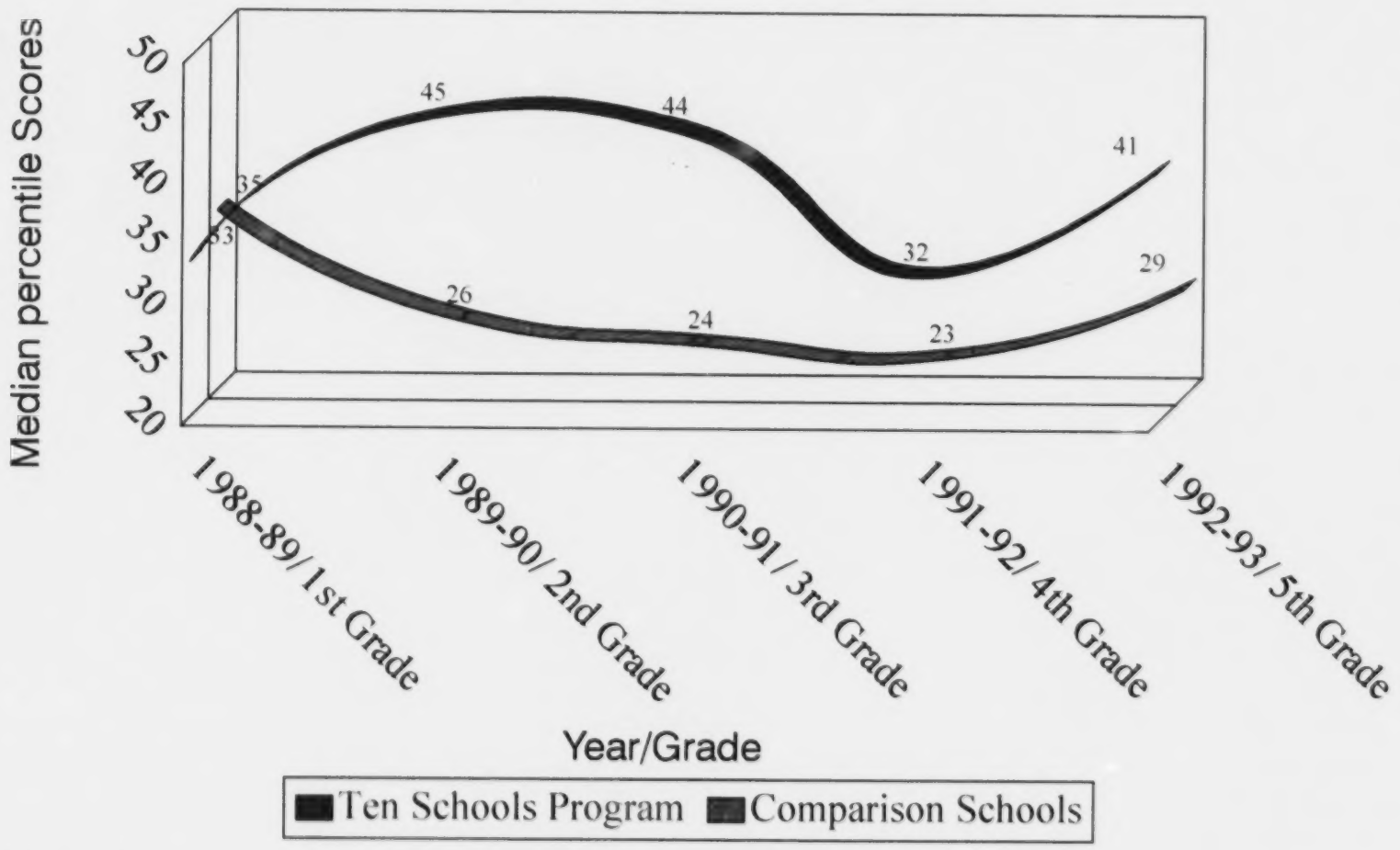

Figure 5.

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CTBS/U Language Arts Achievement Percentile Scores

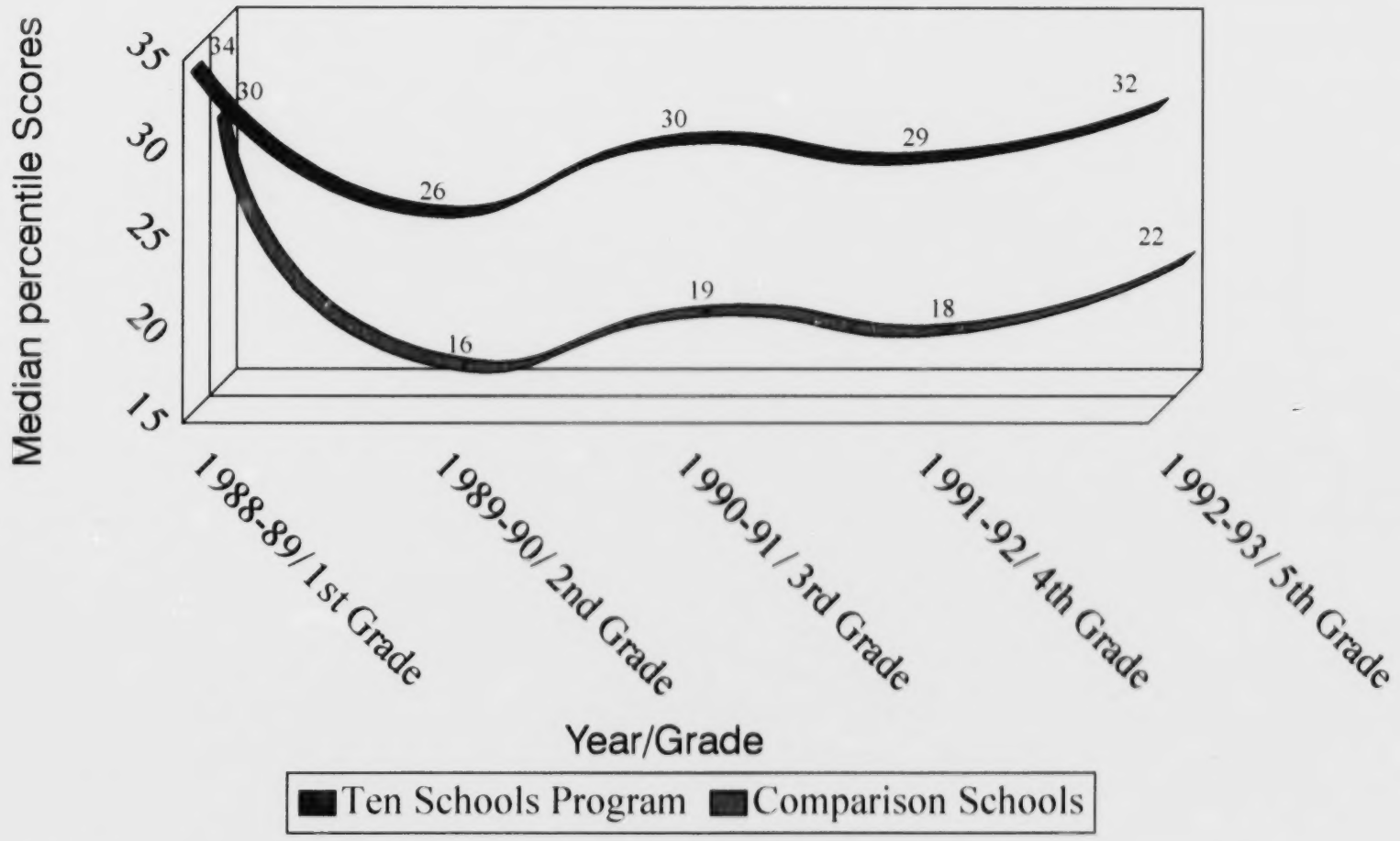

Figure 6.

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CTBS/U Reading Achievement Percentile Scores

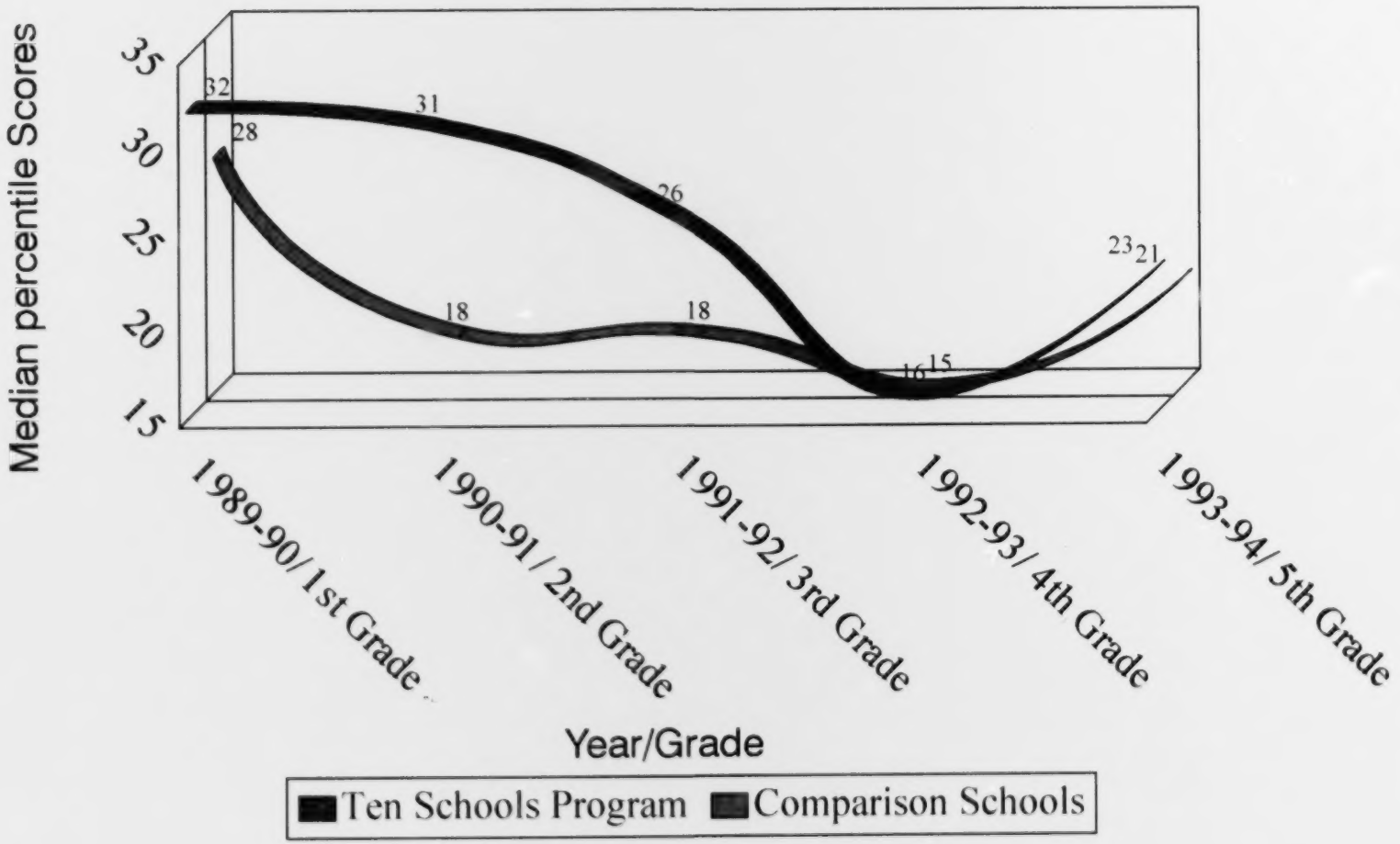

Figure 7.

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CTBS/U Mathematics Achievement Percentile Scores

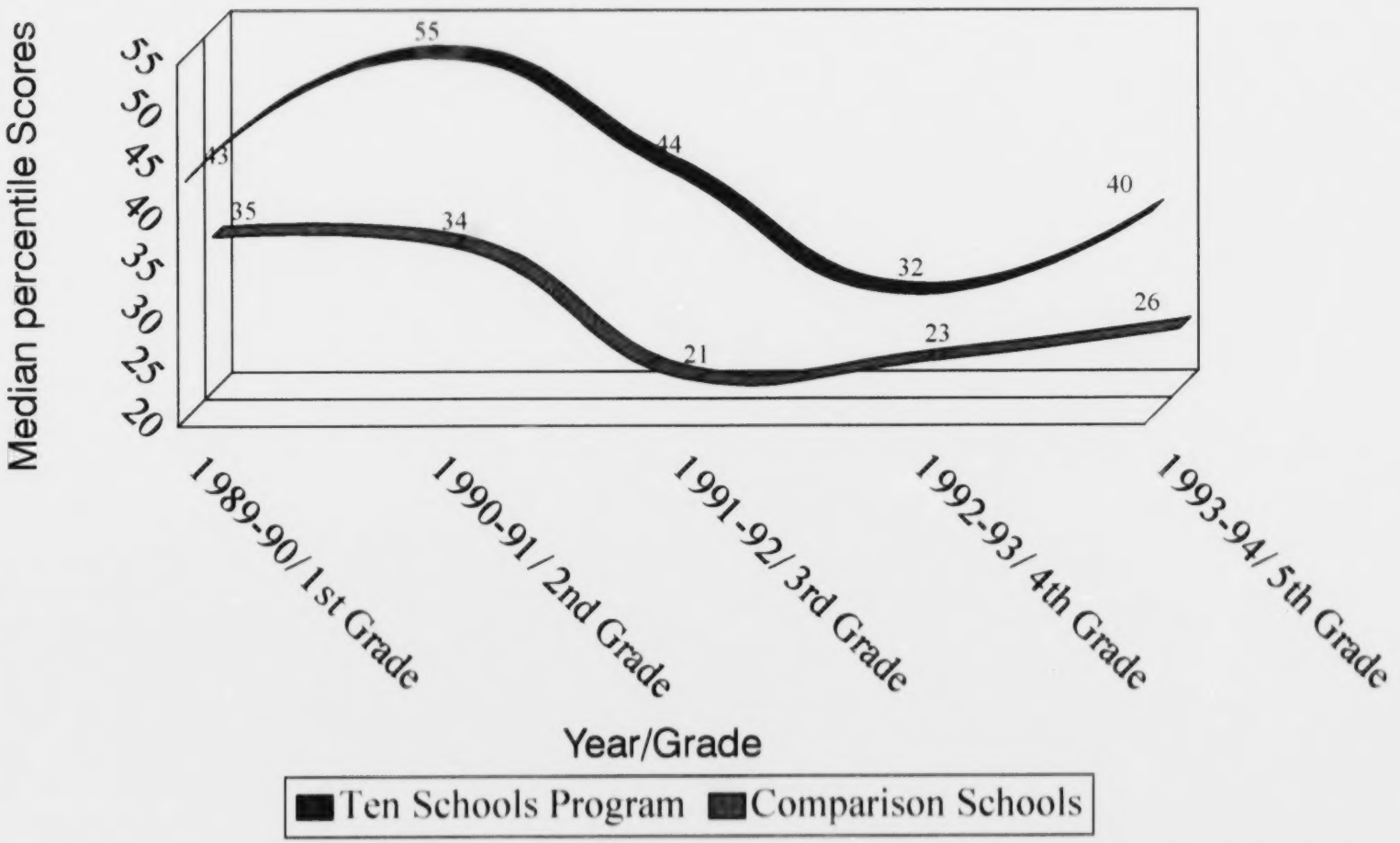

Figure 8.

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CTBS/U Language Arts Achievement Percentile Scores

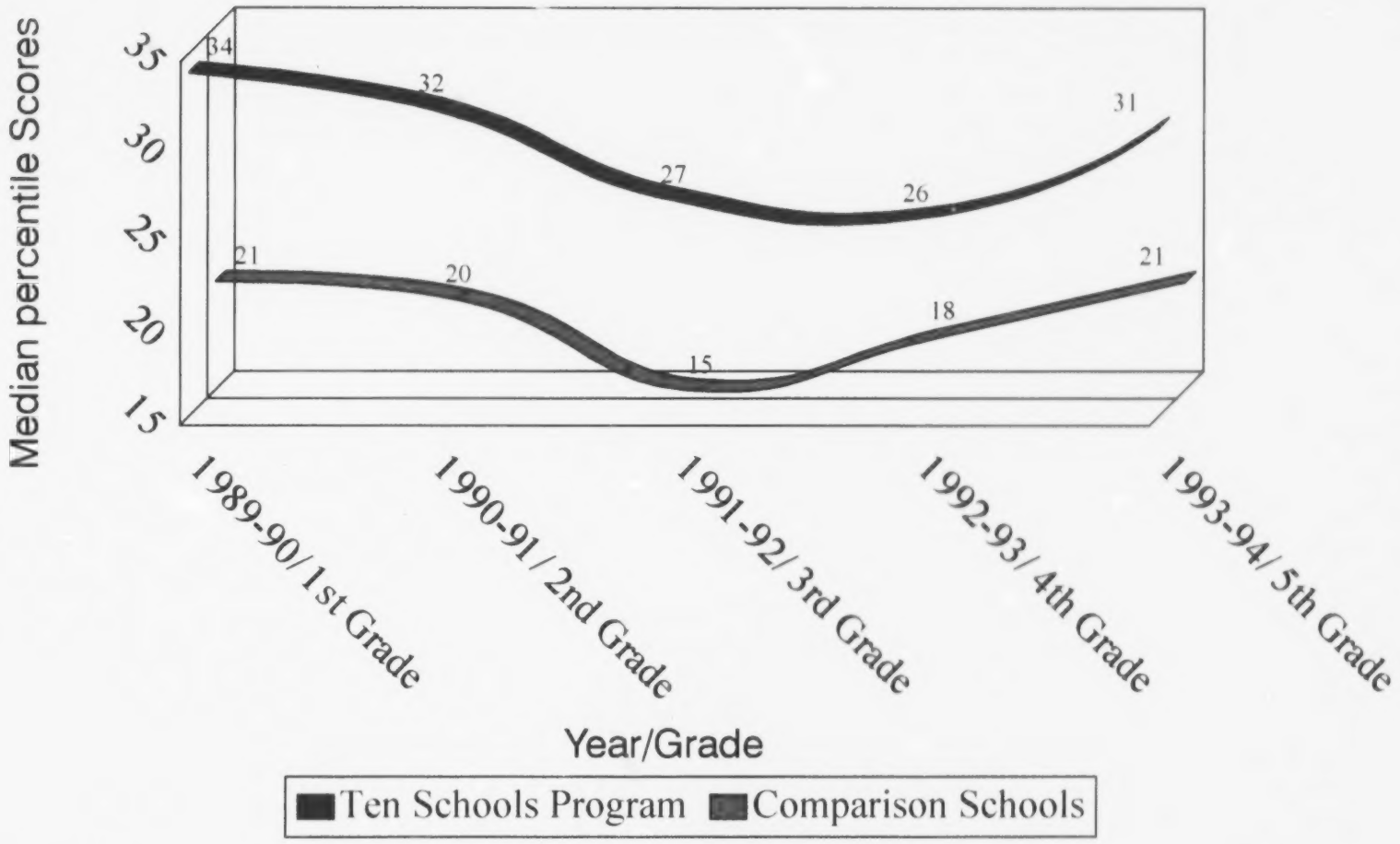

Figure 9.

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CTBS/U Reading Achievement Percentile Scores

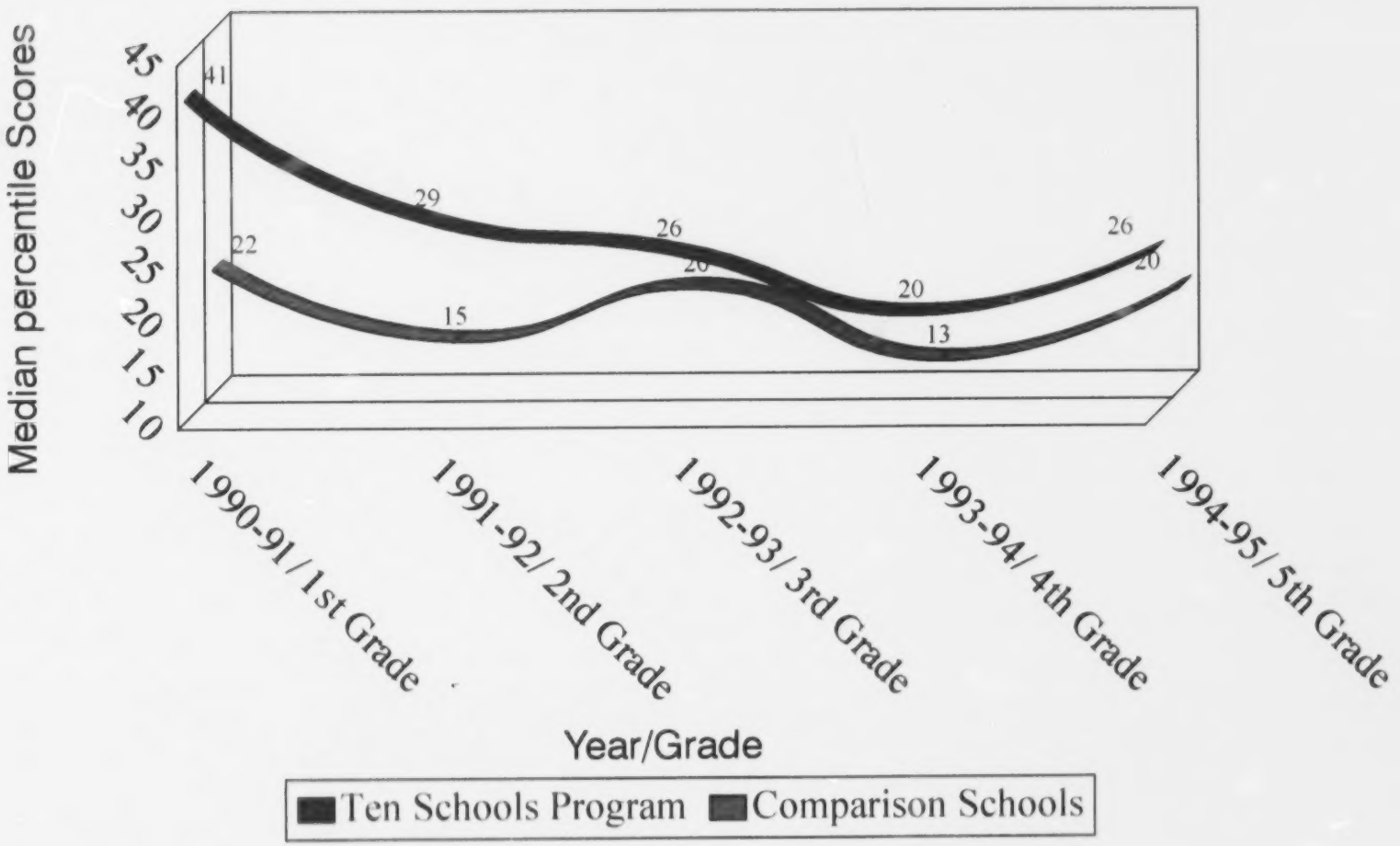

Figure 10.

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CTBS/U Mathematics Achievement Percentile Scores

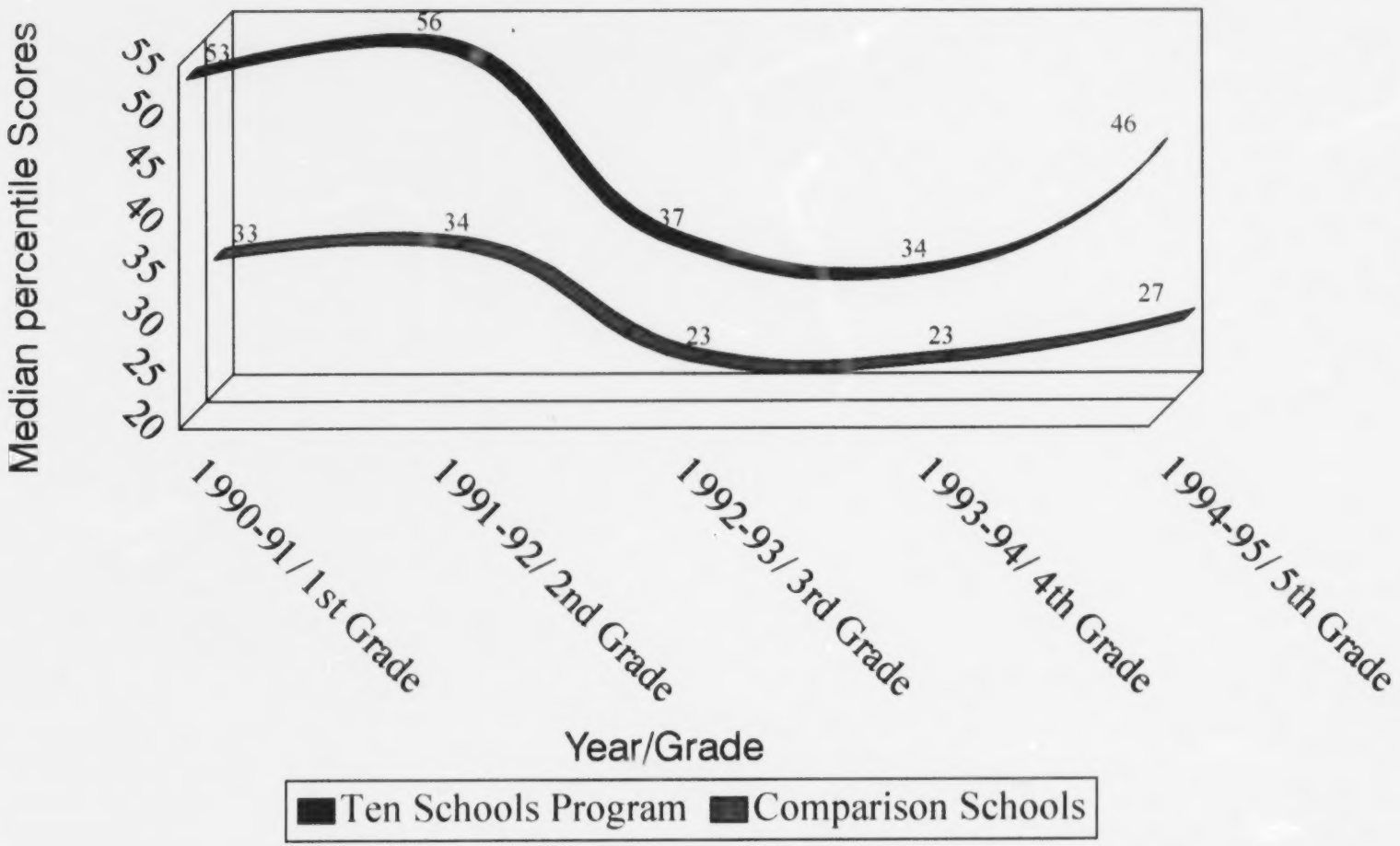

Figure 11.

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CTBS/U Language Arts Achievement Percentile Scores

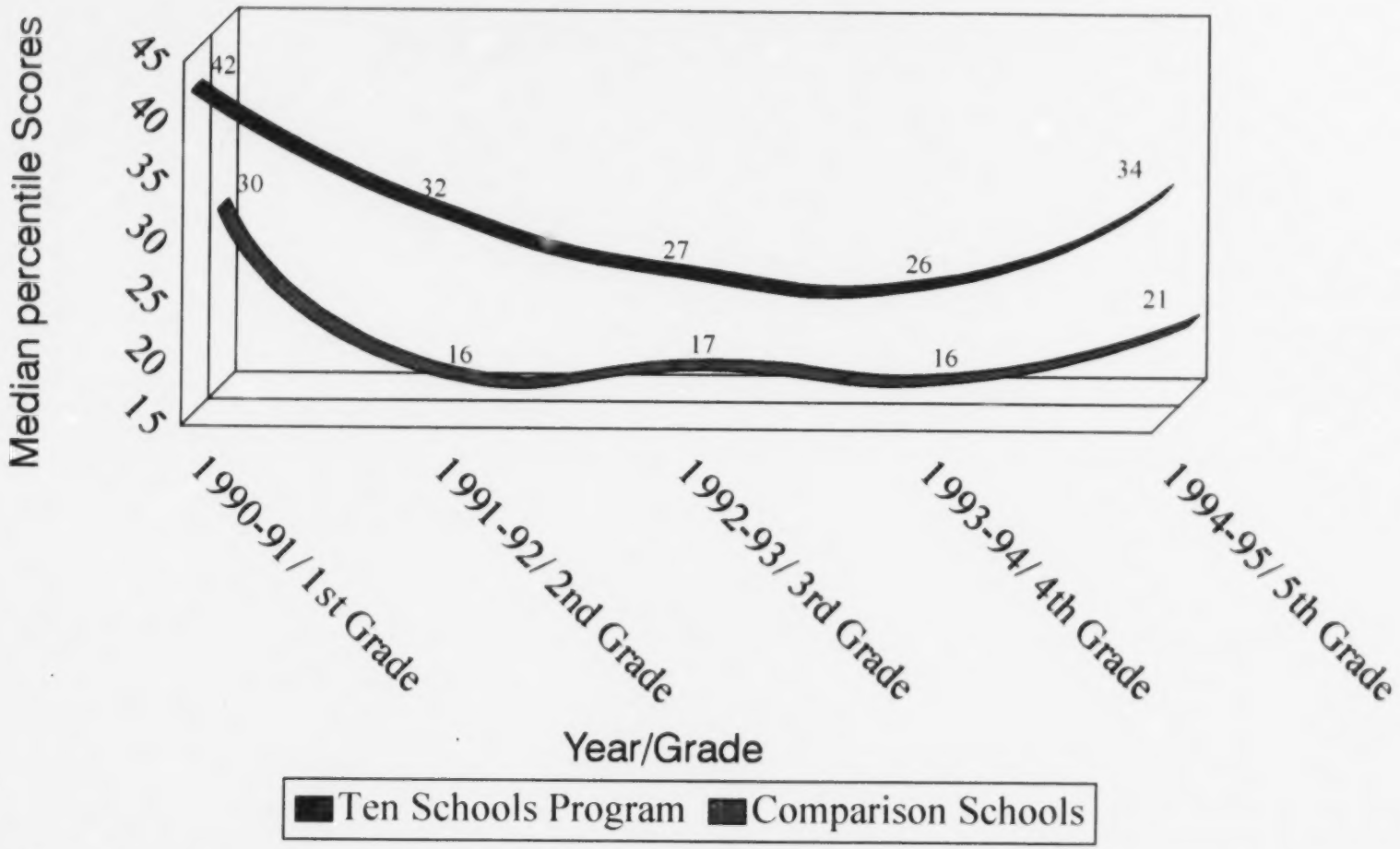

Figure 12.

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Appendix A

Table A-1
First Grade CTBS/U Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	43.59 (740)	41.58 (660)	41.76 (724)	42.73 (773)	42.45 (2,897)
Comparison Schools	33.37 (793)	31.36 (873)	27.99 (751)	27.85 (836)	30.17 (3,253)
District	39.99 (25,657)	39.27 (25,578)	38.42 (23,333)	39.42 (26,502)	39.30 (101,070)

Table A-2
ANCOVA Summary Comparing Reading Achievement of First Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	21,249.73	1	21249.73	55.70	<.00
Language Proficiency	2,102.04	1	2,102.04	5.51	0.02
Main Effects					
Group	247,914.25	1	247,914.25	649.82	<.00
Year	14,848.11	3	4,949.37	12.97	<.00
Interactions					
Group*Year	7,160.64	3	2,386.88	6.26	<.00
Explained	292,734.55	9	32,526.06	85.26	<.00
Residual	2,342,501.77	6,140	381.52		

Table A-3
Second Grade CTBS/U Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	36.10 (604)	36.43 (654)	35.26 (675)	39.63 (675)	36.88 (2,608)
Comparison Schools	31.13 (798)	29.18 (832)	27.97 (809)	28.45 (774)	29.19 (3,213)
District	40.88 (25,793)	40.20 (25,684)	38.74 (23,488)	40.11 (26,060)	40.01 (101,025)

Table A-4
ANCOVA Summary Comparing Reading Achievement of Second Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	118,717.84	1	118,717.84	268.27	<.00
Language Proficiency	10,532.26	1	10,532.26	23.80	<.00
Main Effects					
Group	95,759.14	1	95,759.14	216.39	<.00
Year	6,635.08	3	2,211.69	5.00	<.00
Interactions					
Group * Year	3,433.65	3	1,144.55	2.59	0.05
Explained	233,675.98	9	25,964.00	58.67	<.00
Residual	2,571,526.48	5,811	442.53		

Table A-5
Third Grade CTBS/U Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	35.85 (674)	36.00 (578)	35.82 (676)	35.15 (742)	35.68 (2,670)
Comparison Schools	30.56 (809)	32.02 (811)	28.72 (806)	28.05 (795)	29.85 (3221)
District	40.04 (29,018)	39.64 (27,179)	38.77 (25,109)	39.18 (27,599)	39.43 (108,905)

Table A-6
ANCOVA Summary Comparing Reading Achievement of Third Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	60,198.86	1	60,198.86	220.47	<.00
Language Proficiency	8,040.33	1	8,040.33	29.47	<.00
Main Effects					
Group	54,458.05	1	54,458.05	199.44	<.00
Year	7,335.58	3	2,445.19	8.96	<.00
Interactions					
Group * Year	1,590.09	3	530.03	1.94	0.12
Explained	130,291.49	9	14,476.83	53.02	<.00
Residual	1,605,820.62	5,881	273.05		

Table A-7
Fourth Grade CTBS/U Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	30.03 (1,085)	29.94 (1,102)	31.37 (996)	31.20 (1,157)	30.63 (4,340)
Comparison Schools	28.70 (1,260)	28.88 (1,238)	27.03 (1,252)	26.82 (1,257)	27.86 (5,007)
District	35.38 (46,162)	34.69 (45,645)	33.68 (44,653)	33.99 (46,522)	34.44 (182,982)

Table A-8
ANCOVA Summary Comparing Reading Achievement of Fourth Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	110,801.78	1	110,801.78	376.19	<.00
Language Proficiency	79,921.29	1	79,921.29	271.34	<.00
Main Effects					
Group	23,094.66	1	23,094.66	78.41	<.00
Year	495.69	3	165.23	0.56	0.64
Interactions					
Group * Year	3,047.44	3	1,015.81	3.45	0.02
Explained	228,359.41	9	25,373.27	86.15	<.00
Residual	2,750,119.61	9,337	294.54		

Table A-9
Fifth Grade CTBS/U Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	35.14 (843)	34.44 (817)	33.68 (763)	35.37 (809)	34.68 (3,232)
Comparison Schools	31.09 (975)	32.06 (1,085)	32.15 (922)	32.14 (950)	31.86 (3,932)
District	40.33 (36,766)	39.76 (37,026)	38.81 (32,968)	39.23 (36,215)	39.55 (142,975)

Table A-10
ANCOVA Summary Comparing Reading Achievement of Fifth Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	68,717.04	1	68,717.04	270.72	<.00
Language Proficiency	723.59	1	723.59	2.85	0.09
Main Effects					
Group	18,758.95	1	18,785.95	74.01	<.00
Year	641.55	3	213.85	0.84	0.47
Interactions					
Group * Year	2,933.55	3	977.85	3.85	0.01
Explained	91,133.30	9	10,125.92	39.89	<.00
Residual	1,815,900.93	7,154	253.83		

Table A-11
First Grade CTBS/U Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	49.90 (720)	47.91 (668)	49.37 (728)	49.11 (768)	49.10 (2884)
Comparison Schools	40.92 (793)	36.06 (873)	36.11 (721)	36.48 (826)	37.38 (3213)
District	50.33 (25,714)	49.35 (25,543)	48.69 (23,362)	49.99 (26,537)	49.61 (101,156)

Table A-12
ANCOVA Summary Comparing Mathematics Achievement of First Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	23,226.63	1	23,226.63	45.86	<.00
Language Proficiency	39,542.93	1	39,542.93	78.08	<.00
Main Effects					
Group	227,330.97	1	227,330.97	448.85	<.00
Year	13,219.46	3	4,406.49	8.70	<.00
Interactions					
Group * Year	1,853.04	3	617.68	1.22	0.30
Explained	308,172.54	9	34,241.39	67.61	<.00
Residual	3,082,883.68	6,087	506.47		

Table A-13
Second Grade CTBS/U Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	52.07 (611)	46.66 (649)	47.47 (687)	54.41 (675)	50.13 (2,622)
Comparison Schools	40.38 (817)	37.19 (848)	34.04 (825)	34.84 (794)	36.62 (3,284)
District	51.67 (26,060)	51.35 (25,863)	48.51 (23,736)	50.91 (26,380)	50.66 (102,039)

Table A-14
ANCOVA Summary Comparing Mathematics Achievement of Second Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	98,745.97	1	98,745.97	159.39	<.00
Language Proficiency	86,485.76	1	86,485.76	139.60	<.00
Main Effects					
Group	291,301.38	1	291,301.38	470.22	<.00
Year	36,284.36	3	12,094.79	19.52	<.00
Interactions					
Group * Year	16,078.20	3	5,359.40	8.65	<.00
Explained	522,932.87	9	58,103.65	93.79	<.00
Residual	3,652,612.19	5,896	619.51		

Table A-15
Third Grade CTBS/U Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	46.11 (685)	43.18 (576)	43.99 (671)	45.42 (740)	44.75 (2,672)
Comparison Schools	33.81 (824)	34.94 (809)	30.72 (815)	31.92 (786)	32.85 (3,234)
District	47.58 (29,255)	47.19 (27,338)	45.68 (25,243)	46.40 (27,671)	46.75 (109,507)

Table A-16
ANCOVA Summary Comparing Mathematics Achievement of Third Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	87,753.62	1	87,753.62	198.43	<.00
Language Proficiency	91,319.55	1	91,319.55	206.49	<.00
Main Effects					
Group	219,026.85	1	219,026.85	495.26	<.00
Year	8,253.63	3	2,751.21	6.22	<.00
Interactions					
Group * Year	6,350.61	3	2,116.87	4.79	0.03
Explained	412,478.98	9	45,830.99	103.63	<.00
Residual	2,670,470.38	5,896	442.24		

Table A-17
Fourth Grade CTBS/U Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	42.26 (1,082)	41.83 (1,083)	43.42 (996)	44.48 (1,138)	43.01 (4,299)
Comparison Schools	36.16 (1,251)	35.10 (1,240)	34.51 (1,233)	34.08 (1,248)	34.97 (4,972)
District	45.57 (46,050)	44.98 (45,542)	43.78 (44,618)	44.50 (46,463)	44.71 (182,673)

Table A-18
ANCOVA Summary Comparing Mathematics Achievement of Fourth Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	170,904.69	1	170,904.69	415.23	<.00
Language Proficiency	3,873.05	1	3,873.05	9.41	<.00
Main Effects					
Group	155,606.66	1	155,606.66	378.06	<.00
Year	340.92	3	113.64	0.276	0.84
Interactions					
Group * Year	3,615.33	3	1,205.11	2.93	0.03
Explained	331,997.77	9	36,888.64	89.63	<.00
Residual	3,811,732.46	9,261	441.59		

Table A-19
Fifth Grade CTBS/U Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	45.02 (843)	45.68 (826)	43.68 (761)	47.40 (810)	45.47 (3,240)
Comparison Schools	35.38 (961)	38.28 (1,082)	35.87 (920)	38.44 (940)	37.04 (3,903)
District	49.18 (36,659)	49.06 (37,007)	47.58 (32,900)	48.69 (36,073)	48.66 (142,639)

Table A-20
ANCOVA Summary Comparing Mathematics Achievement of Fifth Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	66,226.74	1	66,226.74	185.17	<.00
Language Proficiency	67,865.89	1	67,865.89	189.75	<.00
Main Effects					
Group	136,267.69	1	136,267.69	381.00	<.00
Year	9,296.64	3	3,098.88	8.66	<.00
Interactions					
Group * Year	2,484.41	3	828.14	2.32	0.07
Explained	271,985.82	9	30,220.65	84.50	<.00
Residual	2,551,171.30	7,133	357.66		

Table A-21
First Grade CTBS/U Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	49.13 (741)	46.87 (671)	46.42 (730)	46.73 (766)	47.30 (2,908)
Comparison Schools	40.84 (813)	38.62 (881)	38.02 (751)	36.24 (825)	38.43 (3,270)
District	47.10 (25,785)	46.45 (25,668)	45.73 (23,420)	46.45 (26,670)	46.45 (101,543)

Table A-22
ANCOVA Summary Comparing Language Achievement of First Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	20,111.40	1	20,111.40	75.07	<.00
Language Proficiency	1,985.35	1	1,985.35	7.41	0.01
Main Effects					
Group	132,621.11	1	132,621.11	495.06	<.00
Year	13,319.66	3	4,439.89	16.57	<.00
Interactions					
Group * Year	1983.28	3	661.09	2.47	0.06
Explained	169,778.36	9	18,864.26	70.42	<.00
Residual	1,652,350.48	6,168	267.89		

Table A-23
Second Grade CTBS/U Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	41.20 (609)	40.53 (659)	39.18 (692)	44.22 (677)	41.28 (2,637)
Comparison Schools	32.36 (795)	31.21 (850)	28.67 (803)	28.28 (802)	30.14 (3,250)
District	43.00 (25,794)	42.31 (25,524)	40.68 (23,419)	42.23 (26,200)	42.09 (100,937)

Table A-24
ANCOVA Summary Comparing Language Achievement of Second Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	98,337.22	1	98,337.22	225.86	<.00
Language Proficiency	15,615.21	1	15,615.21	35.87	<.00
Main Effects					
Group	197,321.41	1	197,321.41	453.21	<.00
Year	9,871.58	3	3,290.53	7.56	<.00
Interactions					
Group * Year	8,107.93	3	2,702.64	6.21	<.00
Explained	326,268.38	9	36,252.04	83.26	<.00
Residual	2,558,762.02	5,877	435.39		

Table A-25
Third Grade CTBS/U Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	39.30 (666)	40.02 (586)	40.45 (671)	40.25 (716)	40.01 (2,639)
Comparison Schools	27.96 (808)	30.13 (788)	25.93 (821)	25.51 (793)	27.37 (3210)
District	41.41 (28,952)	41.03 (27,024)	39.75 (24,931)	40.56 (27,365)	40.72 (108,272)

Table A-26
ANCOVA Summary Comparing Language Achievement of Third Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	92,366.42	1	92,366.42	200.88	<.00
Language Proficiency	9,872.71	1	9,872.71	21.47	<.00
Main Effects					
Group	243,684.74	1	243,684.74	529.90	<.00
Year	6,477.04	3	2,159.01	4.70	<.00
Interactions					
Group * Year	3,168.60	3	1,056.20	2.30	0.08
Explained	353,849.75	9	39,316.64	85.51	<.00
Residual	2,684,789.20	5,839	459.80		

Table A-27
Fourth Grade CTBS/U Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	37.33 (1,060)	36.67 (1,043)	37.35 (1,001)	37.25 (1,127)	37.15 (4,231)
Comparison Schools	30.80 (1,228)	30.48 (1,214)	29.23 (1,240)	28.55 (1,252)	29.76 (4,934)
District	38.46 (45,802)	37.55 (45,409)	36.49 (44,419)	37.16 (46,492)	37.42 (182,122)

Table A-28
ANCOVA Summary Comparing Language Achievement of Fourth Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	117,432.12	1	117,432.12	325.19	<.00
Language Proficiency	98,354.42	1	98,354.42	272.36	<.00
Main Effects					
Group	138,155.67	1	138,155.67	382.58	<.00
Year	1,024.14	3	341.38	0.945	0.42
Interactions					
Group * Year	1,383.61	3	461.20	1.28	0.28
Explained	369,285.06	9	41,031.67	113.62	<.00
Residual	3,306,031.36	9,155	361.12		

Table A-29
Fifth Grade CTBS/U Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	42.24 (819)	41.60 (806)	39.44 (758)	41.94 (797)	41.33 (3,180)
Comparison Schools	32.78 (963)	33.48 (1,073)	32.20 (911)	33.12 (940)	32.92 (3,887)
District	43.67 (36,548)	43.06 (36,921)	41.92 (32,715)	42.70 (36,078)	42.86 (142,262)

Table A-30
ANCOVA Summary Comparing Language Achievement of Fifth Grade TSP with Comparison Schools as Measured by CTBS/U

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates					
Title 1 Membership	70,482.12	1	70,482.12	230.47	<.00
Language Proficiency	9,289.68	1	9,289.68	30.38	<.00
Main Effects					
Group	135,922.18	1	135,922.18	444.45	<.00
Year	2960.67	3	986.89	3.23	0.02
Interactions					
Group * Year	2386.77	3	795.59	2.60	0.05
Explained	217,623.01	9	24,180.33	79.07	<.00
Residual	2,158,161.49	7,057	305.82		

Appendix B

Table B-1
First Grade APRENDA Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	45.55 (669)	43.52 (711)	47.70 (640)	47.47 (665)	46.00 (2,685)
Comparison Schools	32.40 (609)	31.95 (601)	31.22 (622)	34.09 (660)	32.44 (2,492)
District	31.56 (26,319)	31.94 (26,804)	31.93 (26,115)	33.68 (28,189)	32.30 (107,427)

Table B-2
ANCOVA Summary Comparing Reading Achievement of First Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	1,000.83	1	1,000.83	2.12	0.15
Main Effects Group Year	 255,822.18 6,256.28	 1 3	 255,822.18 2,085.43	 542.05 4.42	 <.00 <.00
Interactions Group * Year	 4,486.55	 3	 1,495.52	 3.17	 0.02
Explained	265,680.18	8	33,210.02	70.37	<.00
Residual	2,439,046.58	5,168	471.95		

Table B-3
Second Grade APRENDA Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	46.44 (552)	49.69 (640)	52.15 (639)	54.99 (630)	50.96 (2,461)
Comparison Schools	35.51 (632)	35.04 (628)	36.94 (591)	38.96 (652)	36.63 (2,503)
District	38.25 (23,232)	37.89 (24,648)	37.50 (23,872)	39.70 (25,695)	38.36 (97,447)

Table B-4
ANCOVA Summary Comparing Reading Achievement of Second Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	39,801.31	1	39,801.32	77.82	<.00
Main Effects Group Year	 268,158.40 25,493.35	 1 3	 268,158.40 8,497.79	 524.29 16.61	 <.00 <.00
Interactions Group * Year	2,036.43	3	678.81	1.33	0.26
Explained	337,873.76	8	42,234.22	82.57	<.00
Residual	2,534,342.97	4,955	511.47		

Table B-5
Third Grade APRENDA Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	44.14 (458)	43.38 (470)	45.87 (535)	45.71 (528)	44.84 (1,991)
Comparison Schools	38.70 (504)	38.72 (528)	38.69 (536)	39.16 (534)	38.82 (2,102)
District	40.38 (19,138)	41.08 (20,754)	40.24 (20,957)	41.65 (22,419)	40.86 (83,268)

Table B-6
ANCOVA Summary Comparing Reading Achievement of Third Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	16,467.06	1	16,467.06	49.87	<.00
Main Effects Group Year	 37,750.11 1,009.88	 1 3	 37,750.11 336.63	 114.33 1.02	 <.00 0.38
Interactions Group * Year	793.77	3	264.59	0.80	0.49
Explained	56,360.13	8	7,045.02	21.34	<.00
Residual	1,348,502.18	4,084	330.19		

Table B-7
Fourth Grade APRENDA Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	46.37 (337)	46.14 (383)	45.54 (330)	46.99 (383)	46.29 (1,423)
Comparison Schools	39.24 (441)	39.84 (339)	41.35 (365)	38.43 (354)	39.70 (1,499)
District	43.56 (14,939)	44.26 (14,805)	43.62 (15,644)	44.59 (16,715)	44.02 (62,103)

Table B-8
ANCOVA Summary Comparing Reading Achievement of Fourth Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	4,800.88	1	4,800.88	18.21	<.00
Main Effects Group Year	 32,489.01 310.06	 1 3	 32,489.01 103.35	 123.22 0.39	 <.00 0.76
Interactions Group * Year	 2,139.91	 3	 713.30	 2.71	 0.04
Explained	39,775.33	8	4,971.92	18.86	<.00
Residual	768,025.35	2,913	263.65		

Table B-9
Fifth Grade APRENDA Reading NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	47.55 (229)	41.23 (229)	41.88 (211)	43.25 (216)	43.56 (885)
Comparison Schools	41.62 (259)	41.32 (294)	41.27 (228)	41.56 (243)	41.44 (1.024)
District	43.95 (9.762)	43.19 (9.526)	42.61 (9.069)	43.75 (9.445)	43.39 (37.802)

Table B-10
ANCOVA Summary Comparing Reading Achievement of Fifth Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	2,855.57	1	2,855.57	10.24	<.00
Main Effects Group Year	 2,282.88 2,981.82	 1 3	 2,282.88 993.94	 8.19 3.57	 <.00 0.01
Interactions Group * Year	 3,199.32	 3	 1,066.44	 3.83	 0.01
Explained	11,371.41	8	1,421.43	5.10	<.00
Residual	529,793.05	1,900	278.84		

Table B-11
First Grade APRENDA Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	46.12 (682)	46.11 (687)	50.79 (637)	52.91 (674)	48.94 (2,680)
Comparison Schools	35.63 (654)	34.28 (679)	35.01 (699)	35.29 (729)	35.06 (2,761)
District	36.15 (26,319)	35.90 (26,804)	35.50 (26,115)	37.00 (28,189)	36.15 (107,427)

Table B-12
ANCOVA Summary Comparing Mathematics Achievement of First Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	686.72	1	686.72	1.62	0.20
Main Effects Group Year	 269,432.22 12,498.70	 1 3	 269,432.22 4,166.23	 164.84 9.82	 <.00 <.00
Interactions Group * Year	11,127.79	3	3,709.26	8.74	<.00
Explained	291,704.63	8	36,463.08	85.90	<.00
Residual	2,305,795.54	5,432	424.48		

Table B-13
Second Grade APRENDA Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	47.58 (565)	46.97 (632)	50.37 (633)	54.50 (621)	49.90 (2,451)
Comparison Schools	34.17 (632)	34.17 (634)	36.45 (599)	38.79 (651)	35.91 (2,516)
District	36.49 (23,232)	36.32 (24,648)	35.92 (23,872)	37.55 (25,695)	36.59 (97,447)

Table B-14
ANCOVA Summary Comparing Mathematics Achievement of Second Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	25,888.82	1	25,888.82	56.07	<.00
Main Effects Group Year	 255,793.22 30,622.24	 1 3	 255,793.22 10,207.42	 554.01 22.11	 <.00 <.00
Interactions Group * Year	 2,092.01	 3	 697.34	 1.51	 0.21
Explained	314,894.54	8	39,361.82	85.25	<.00
Residual	2,289,165.20	4,958	461.71		

Table B-15
Third Grade APRENDA Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	43.61 (449)	42.18 (464)	43.81 (518)	42.95 (527)	43.15 (1,958)
Comparison Schools	34.14 (503)	35.77 (509)	36.10 (544)	35.91 (538)	35.50 (2,094)
District	37.29 (19,138)	37.05 (20,754)	35.90 (20,957)	36.88 (22,419)	36.77 (83,268)

Table B-16
ANCOVA Summary Comparing Mathematics Achievement of Third Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	11,675.65	1	11,675.65	37.36	<.00
Main Effects Group Year	59,958.49 618.42	1 3	59,958.49 206.14	191.85 0.66	<.00 0.58
Interactions Group * Year	1,862.49	3	620.83	1.99	0.11
Explained	74,287.48	8	9,285.93	29.71	<.00
Residual	1,263,564.94	4,043	312.53		

Table B-17
Fourth Grade APRENDA Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	42.00 (333)	42.00 (380)	41.55 (313)	43.14 (380)	42.21 (1,406)
Comparison Schools	33.67 (430)	30.42 (328)	32.58 (367)	30.97 (351)	32.03 (1,476)
District	35.66 (14,939)	35.92 (14,805)	35.00 (15,644)	35.88 (16,715)	35.61 (62,103)

Table B-18
ANCOVA Summary Comparing Mathematics Achievement of Fourth Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	2,419.25	1	2,419.25	5.73	0.02
Main Effects Group Year	 76,192.64 1,223.29	 1 3	 76,192.64 407.76	 180.29 0.97	 <.00 0.41
Interactions Group * Year	1,873.60	3	624.53	1.48	0.22
Explained	80,792.83	8	10,099.10	23.90	<.00
Residual	1,214,133.16	2,873	422.60		

Table B-19
Fifth Grade APRENDA Mathematics NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	37.10 (228)	33.67 (230)	33.13 (201)	36.16 (211)	35.05 (870)
Comparison Schools	31.43 (246)	32.34 (287)	31.01 (225)	33.73 (240)	32.15 (998)
District	33.85 (9,726)	33.29 (9,526)	32.30 (9,069)	33.06 (9,445)	33.14 (37,802)

Table B-20
ANCOVA Summary Comparing Mathematics Achievement of Fifth Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	134.22	1	134.22	0.72	0.40
Main Effects Group Year	 3,902.85 2,073.83	 1 3	 3,902.85 691.28	 20.90 3.70	 <.00 0.01
Interactions Group * Year	1,417.52	3	472.51	2.53	0.06
Explained	7,578.68	8	947.34	5.07	<.00
Residual	347,134.32	1,859	186.73		

Table B- 21
First Grade APRENDA Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	50.26 (676)	50.40 (722)	53.84 (646)	55.65 (673)	52.48 (2,717)
Comparison Schools	39.12 (653)	38.64 (693)	37.86 (703)	40.70 (727)	39.09 (2,776)
District	39.97 (26,319)	40.66 (26,804)	40.12 (26,115)	41.93 (28,189)	40.69 (107,427)

Table B- 22
ANCOVA Summary Comparing Language Achievement of First Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	347.02	1	347.02	0.91	0.34
Main Effects Group Year	 254,684.78 11,179.39	 1 3	 254,684.78 3,726.46	 172.47 9.73	 <.00 <.00
Interactions Group * Year	 5,625.15	 3	 1,875.05	 4.90	 <.00
Explained	270,249.59	8	33,781.20	88.18	<.00
Residual	2,100,816.08	5,484	383.08		

Table B-23
Second Grade APRENDA Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	48.66 (560)	53.57 (609)	51.30 (623)	55.16 (631)	52.27 (2,423)
Comparison Schools	35.95 (631)	38.05 (652)	38.68 (619)	41.48 (657)	38.57 (2,559)
District	39.65 (23,232)	40.49 (24,648)	39.97 (23,872)	41.85 (25,695)	40.52 (97,447)

Table B-24
ANCOVA Summary Comparing Language Achievement of Second Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	23,828.63	1	23,828.63	52.67	<.00
Main Effects Group Year	244,384.86 22,139.07	1 3	244,384.81 7,397.69	540.21 16.31	<.00 <.00
Interactions Group * Year	1,411.96	3	470.65	1.04	0.37
Explained	293,655.40	8	36,706.92	81.14	<.00
Residual	2,249,741.20	4,973	452.39		

Table B-25
Third Grade APRENDA Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	47.13 (451)	48.13 (469)	49.99 (523)	49.70 (512)	48.81 (1,955)
Comparison Schools	40.10 (464)	40.29 (411)	41.56 (544)	42.21 (477)	41.09 (1,896)
District	38.00 (19,138)	38.46 (20,754)	37.24 (20,957)	38.72 (22,419)	38.12 (83,268)

Table B-26
ANCOVA Summary Comparing Language Achievement of Third Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	18,358.10	1	18,358.01	55.00	<.00
Main Effects Group Year	 58,319.25 2,909.62	 1 3	 58,319.25 969.87	 45.86 2.91	 <.00 0.03
Interactions Group * Year	153.45	3	51.15	0.153	0.93
Explained	79,742.81	8	9,967.85	29.87	<.00
Residual	1,282,314.78	3,842	333.76		

Table B-27
Fourth Grade APRENDA Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	48.46 (334)	48.94 (385)	46.99 (311)	50.35 (343)	48.73 (1,373)
Comparison Schools	41.22 (377)	41.03 (331)	40.27 (366)	38.14 (354)	40.17 (1,428)
District	40.93 (14,939)	42.30 (14,805)	41.84 (15,644)	42.37 (16,715)	41.87 (62,103)

Table B-28
ANCOVA Summary Comparing Language Achievement of Fourth Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	915.84	1	915.84	2.75	0.10
Main Effects Group Year	 51,337.02 783.50	 1 3	 51,337.02 261.17	 39.58 0.78	 <.00 0.50
Interactions Group * Year	3,467.74	3	1,155.91	3.47	0.02
Explained	57,107.76	8	7,138.47	21.44	<.00
Residual	929,708.15	2,792	332.99		

Table B-29
Fifth Grade APRENDA Language NCE Means for TSP and Comparison Schools

Group	Year				
	1991-92	1992-93	1993-94	1994-95	Average
Ten-Schools Program	41.07 (201)	35.71 (228)	37.31 (208)	39.13 (206)	38.22 (843)
Comparison Schools	34.96 (244)	34.28 (284)	35.91 (218)	35.84 (232)	35.18 (978)
District	35.97 (9,762)	34.53 (9,526)	34.43 (9,069)	35.22 (9,445)	35.05 (37,802)

Table B-30
ANCOVA Summary Comparing Language Achievement of Fifth Grade TSP with Comparison Schools as Measured by APRENDA

Source of Variation	Sum of Squares	df	Mean Squares	f- Value	Level of Sig.
Covariates Title 1 Membership	929.22	1	929.22	4.67	0.03
Main Effects Group Year	4,245.85 2,128.49	1 ?	4,245.85 709.50	21.32 3.56	<.00 0.01
Interactions Group * Year	1,925.78	3	641.93	3.22	0.02
Explained	9,299.71	8	1,162.46	5.84	<.00
Residual	360,853.39	1,812	199.15		

Appendix C

First Grade CTBS Reading Achievement Scores

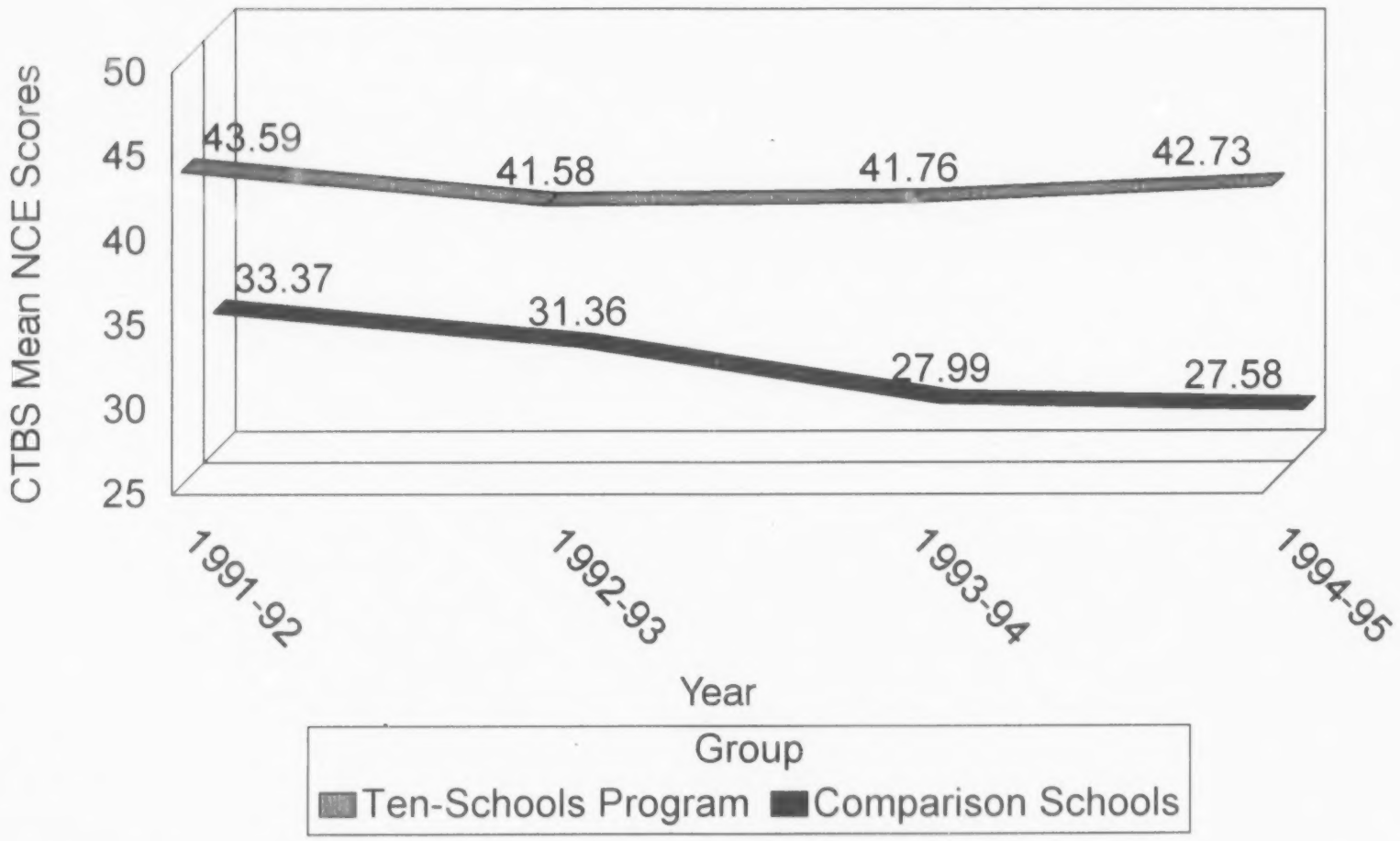

Figure C-1

Second Grade CTBS Reading Achievement Scores

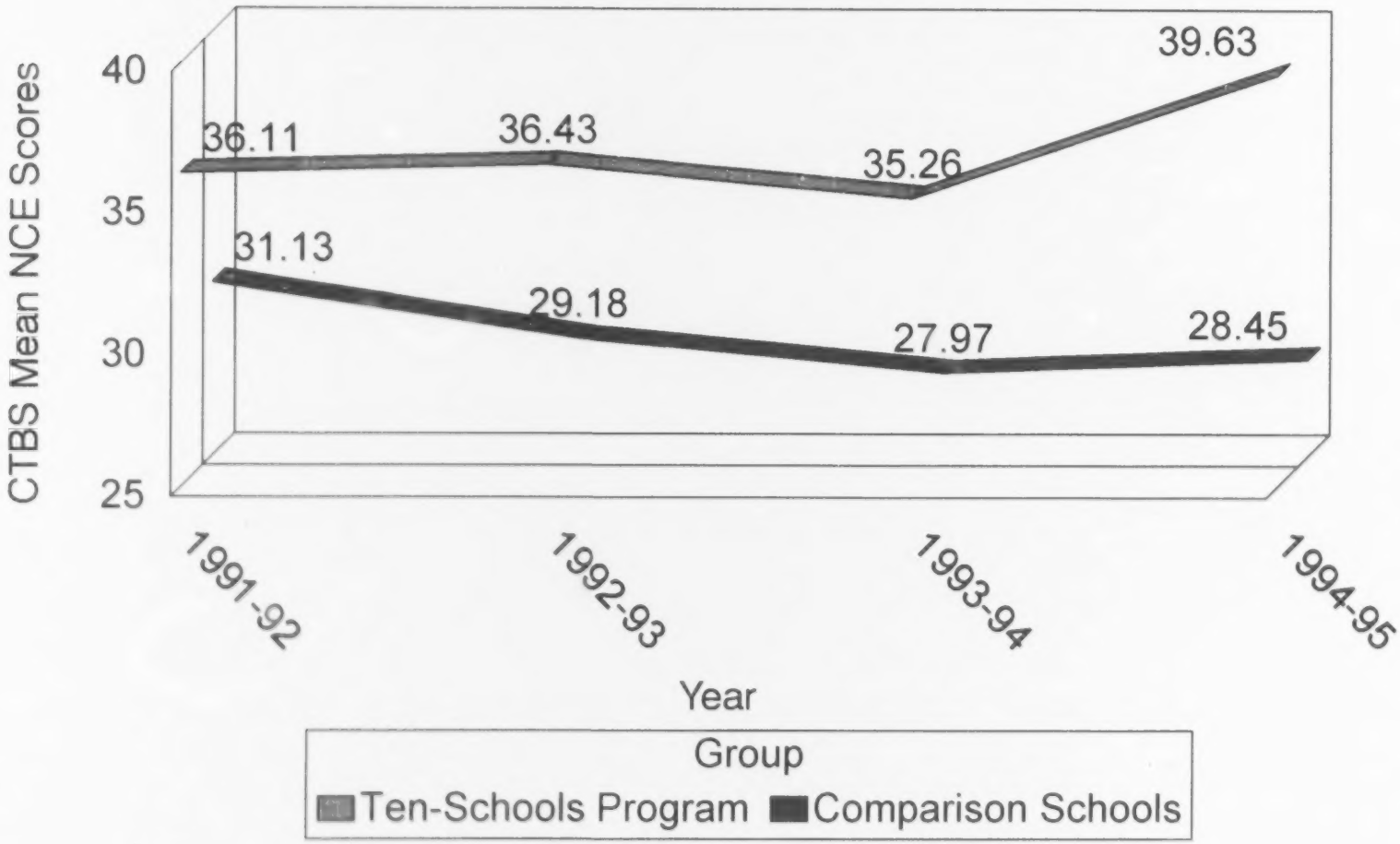

Figure C-2

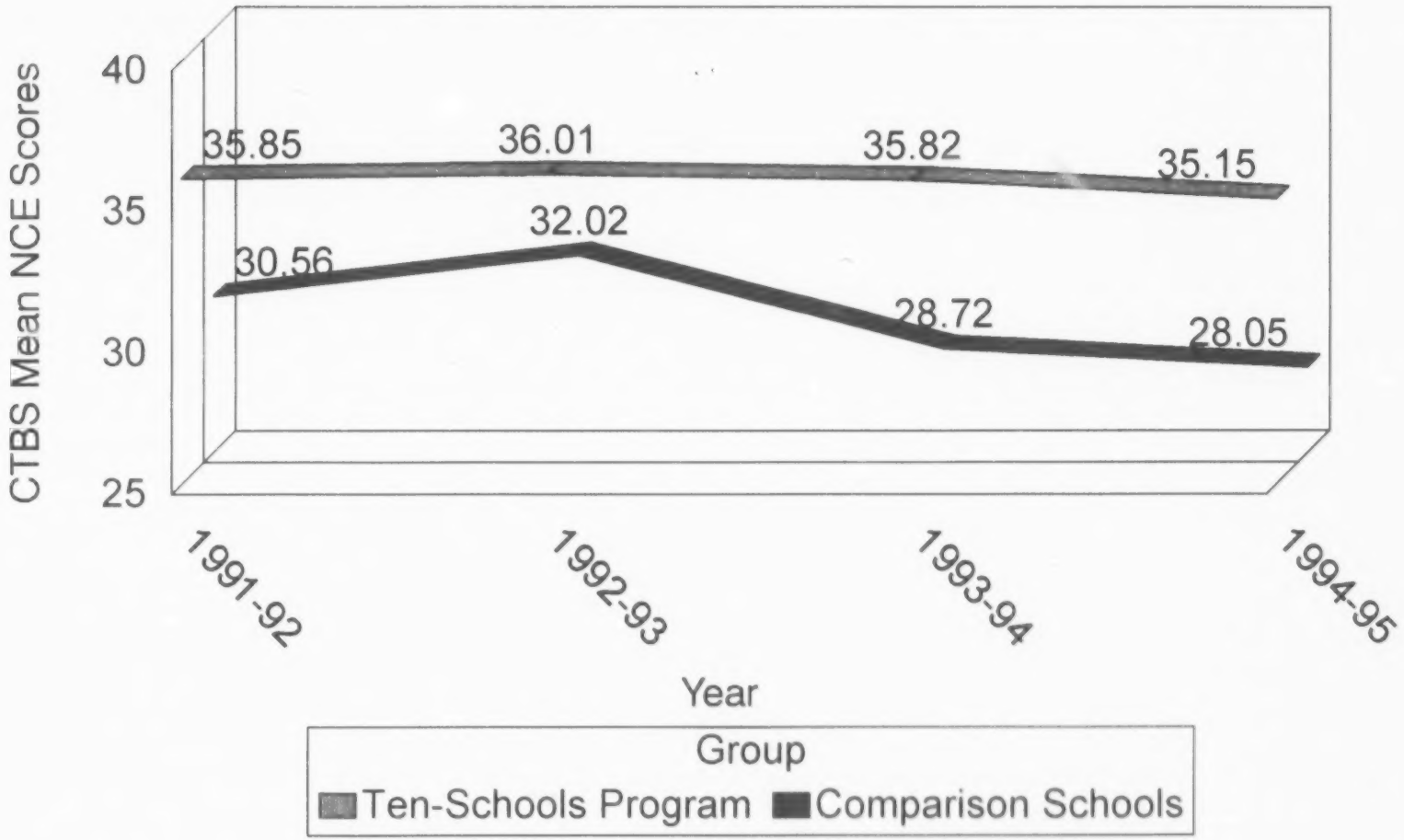
Third Grade CTBS Reading Achievement Scores
CTBS Mean NCE Scores
40
35
30
25
35.85
36.01
35.82
35.15
30.56
32.02
28.72
28.05
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure C-3

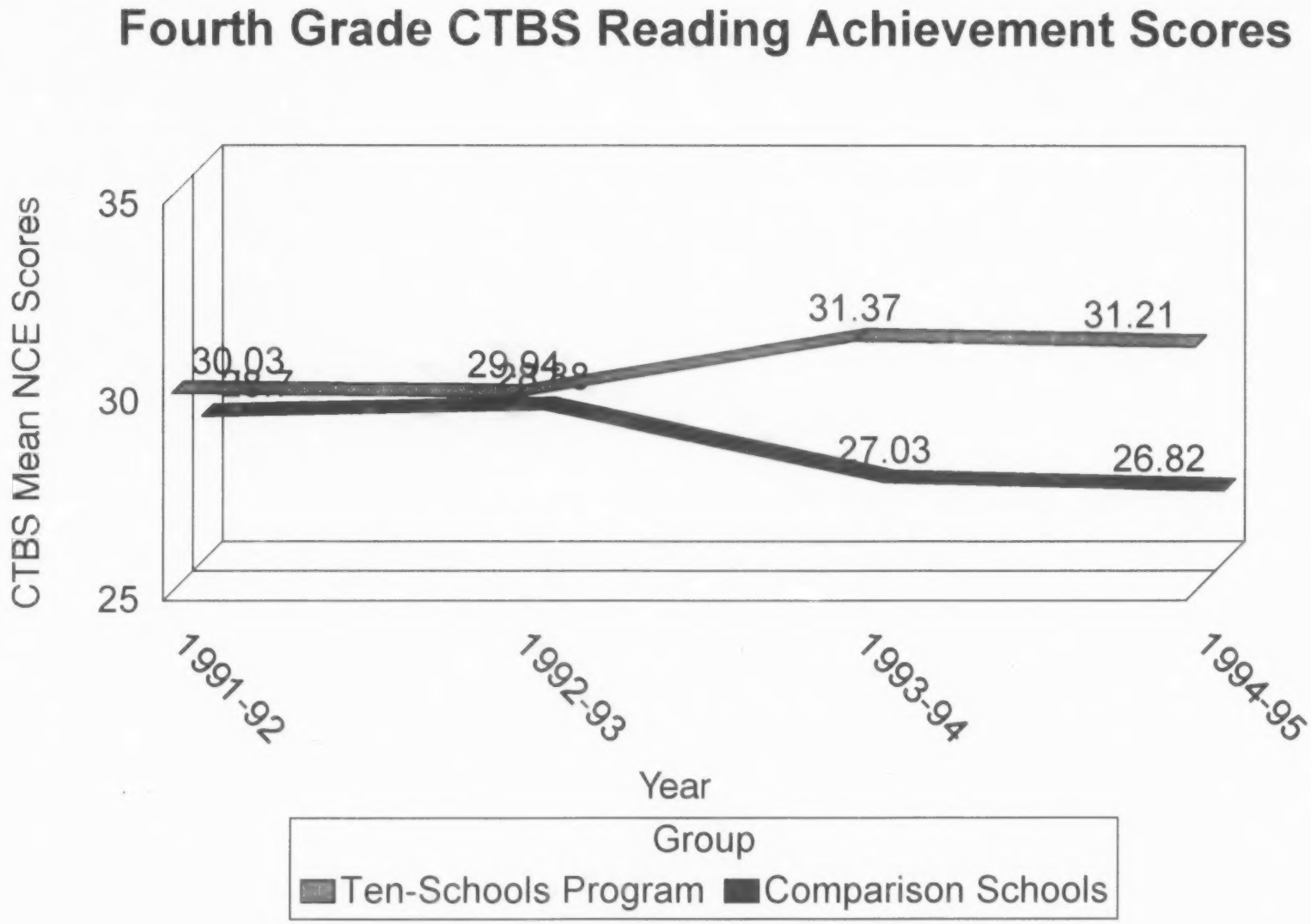
Fourth Grade CTBS Reading Achievement Scores
CTBS Mean NCE Scores
35
30
25
30.03
29.94
31.37
31.21
27.03
26.82
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure C-4.

Fifth Grade CTBS Reading Achievement Scores

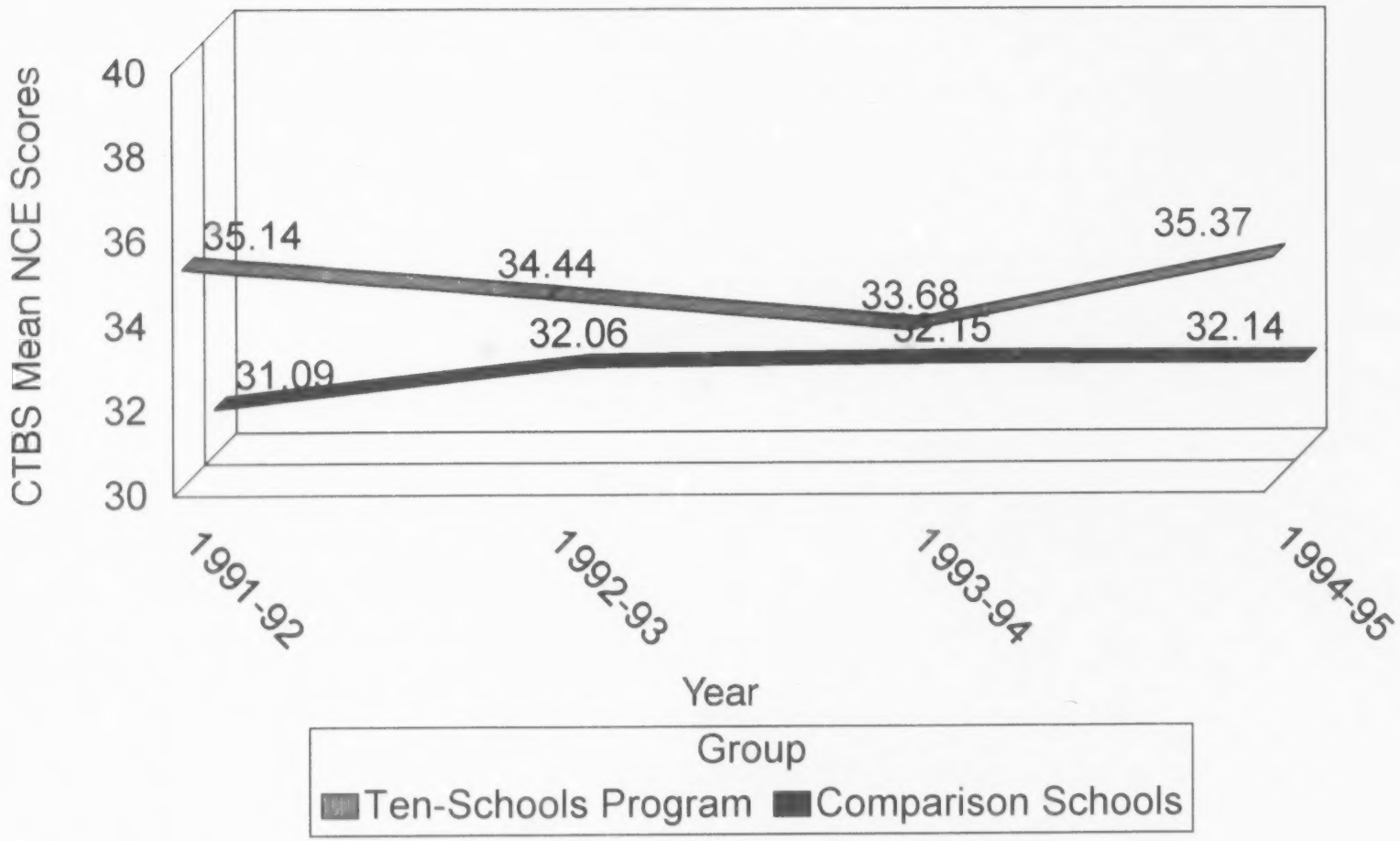

Figure C-5

First Grade CTBS Mathematics Achievement Scores

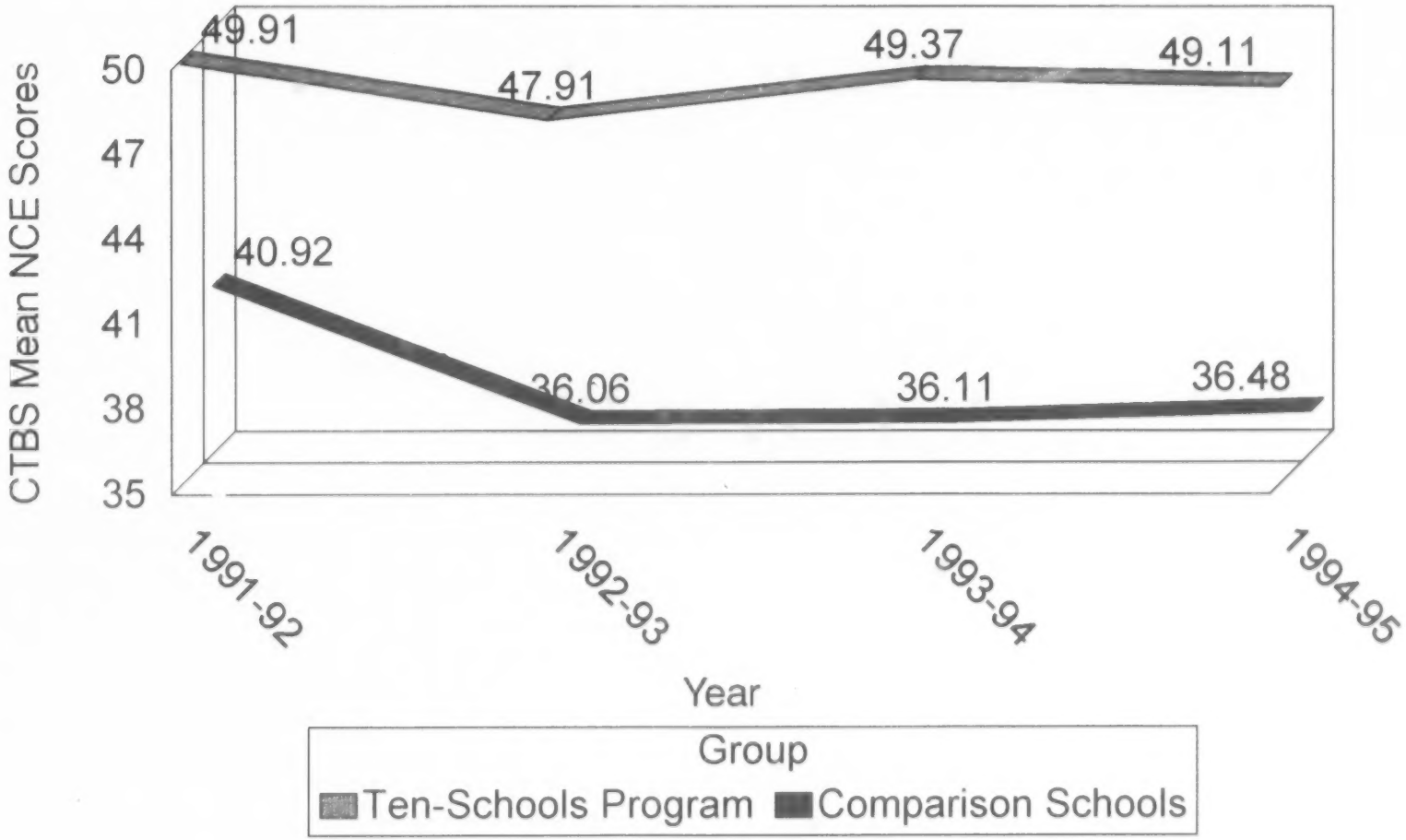

Figure C-6

Second Grade CTBS Mathematics Achievement Scores

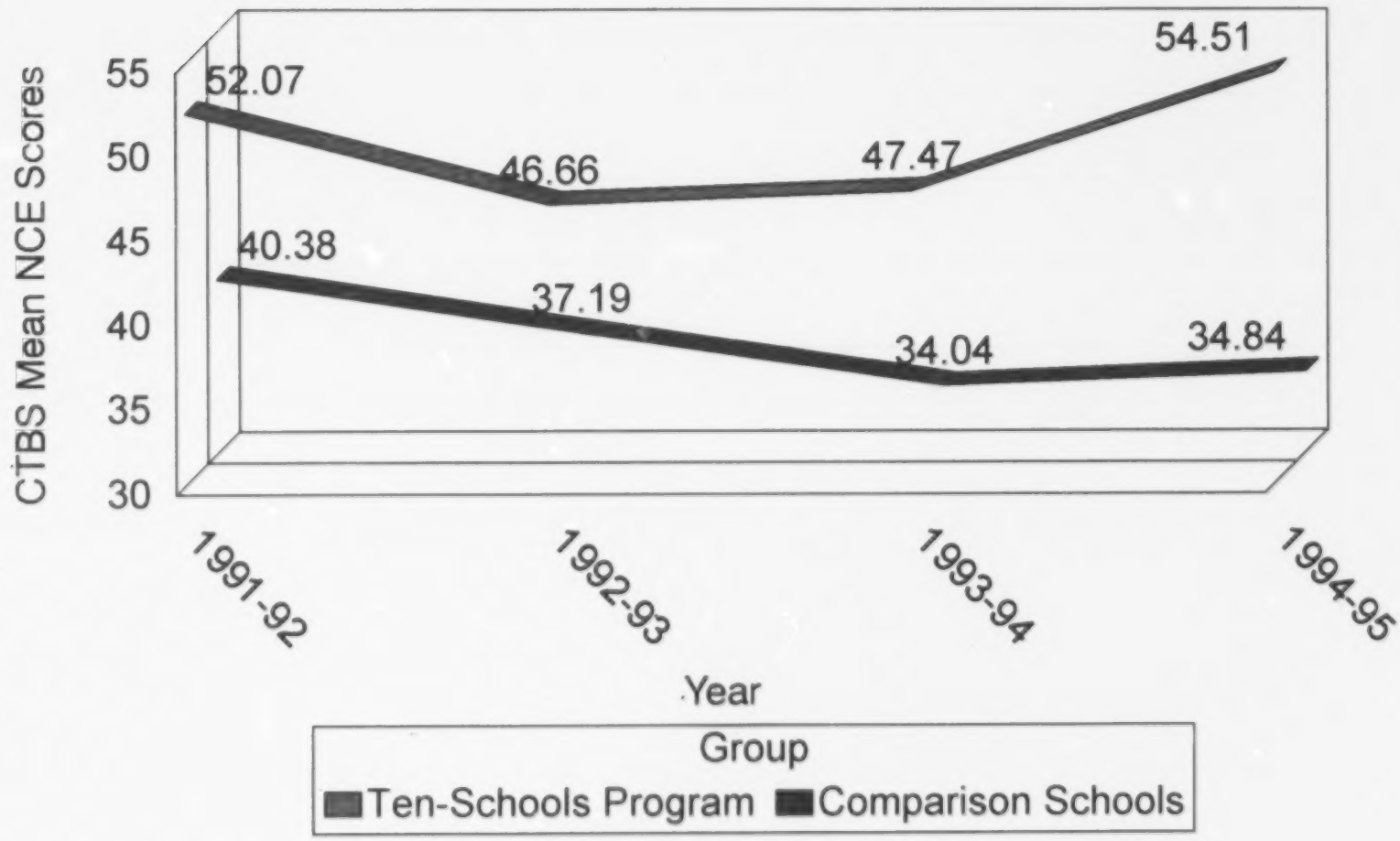

Figure C- 7.

Third Grade CTBS Mathematics Achievement Scores

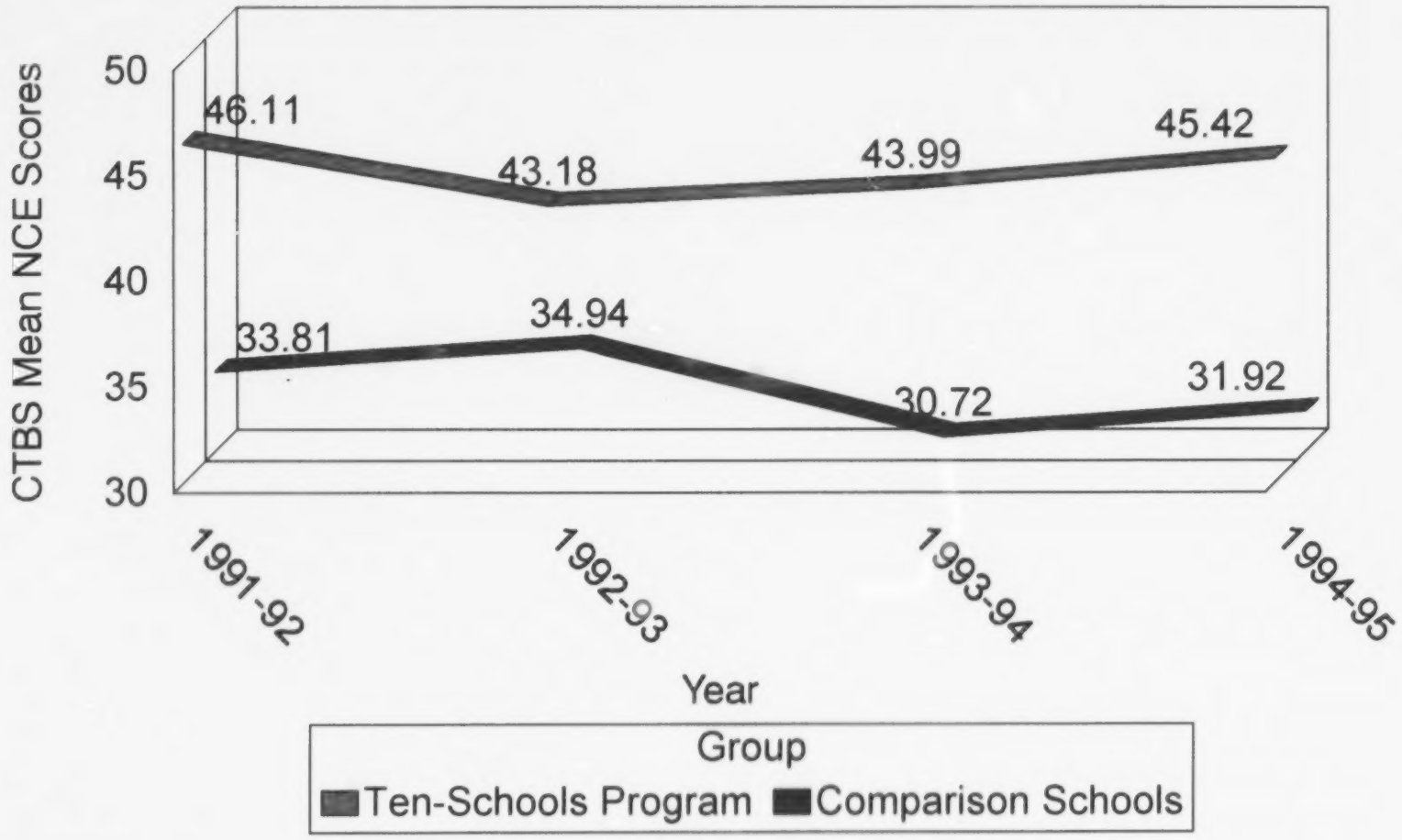

Figure C-8

Fourth Grade CTBS Mathematics Achievement Scores

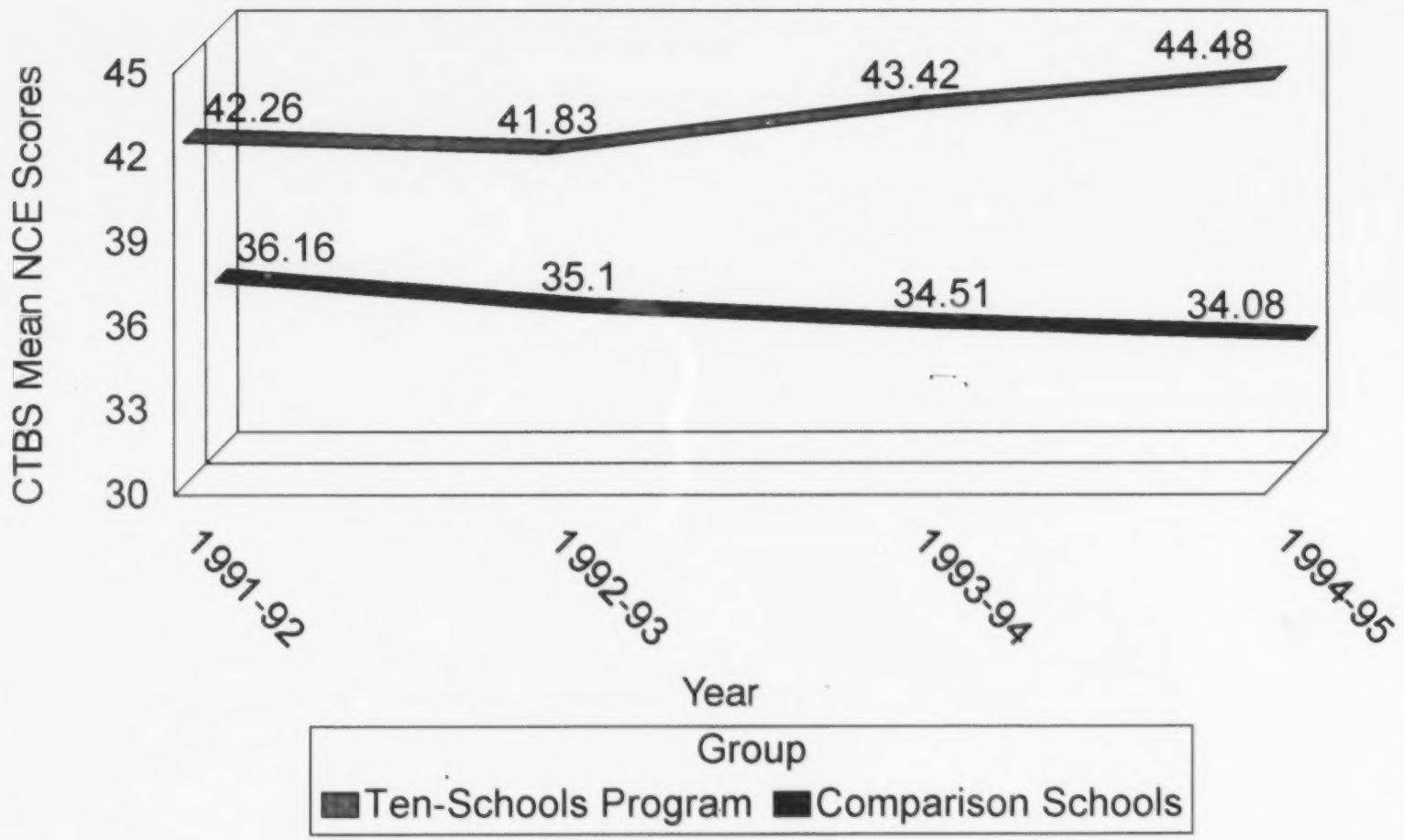

Figure C- 9.

Fifth Grade CTBS Mathematics Achievement Scores

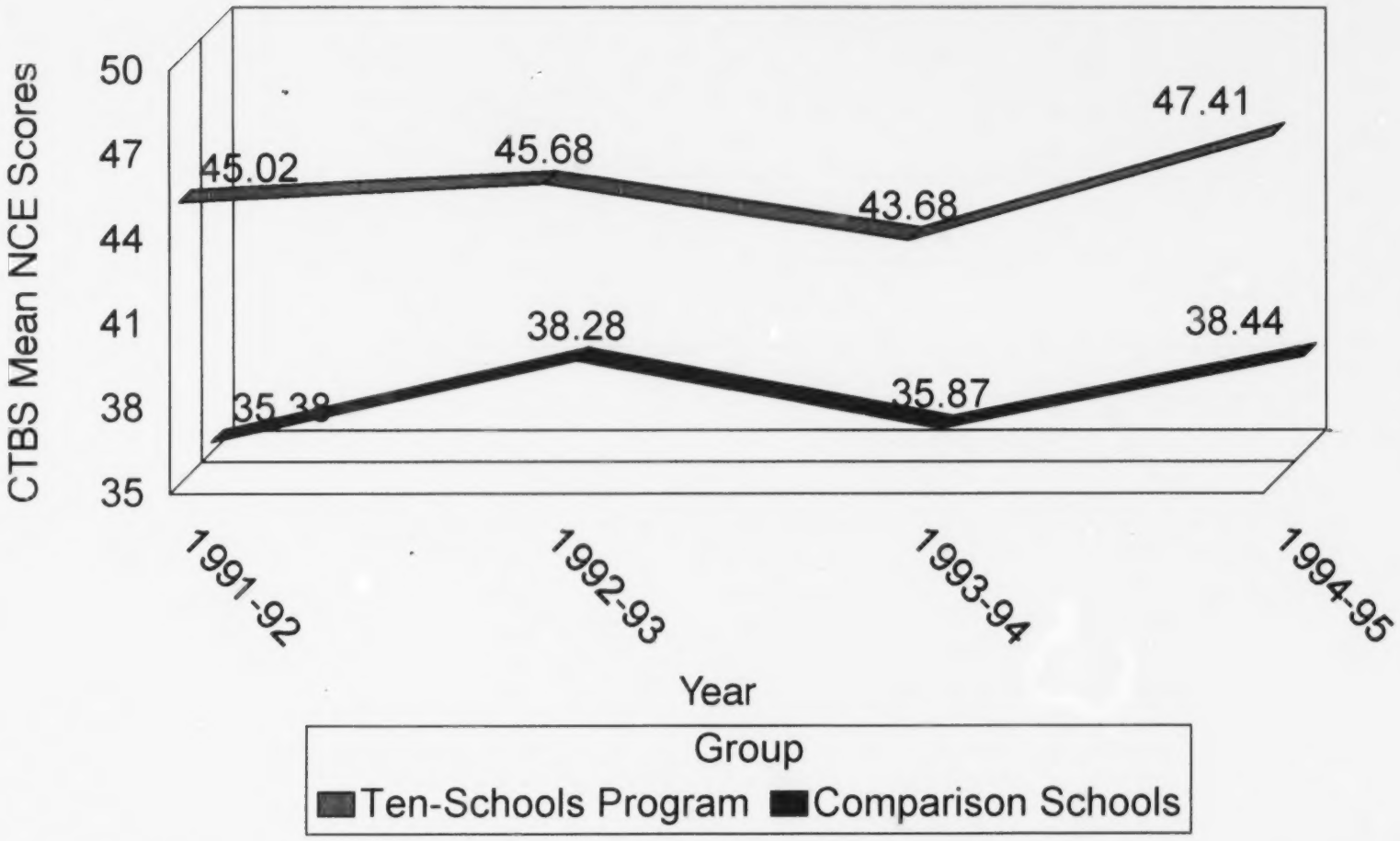

Figure C-10.

First Grade CTBS Language Achievement Scores

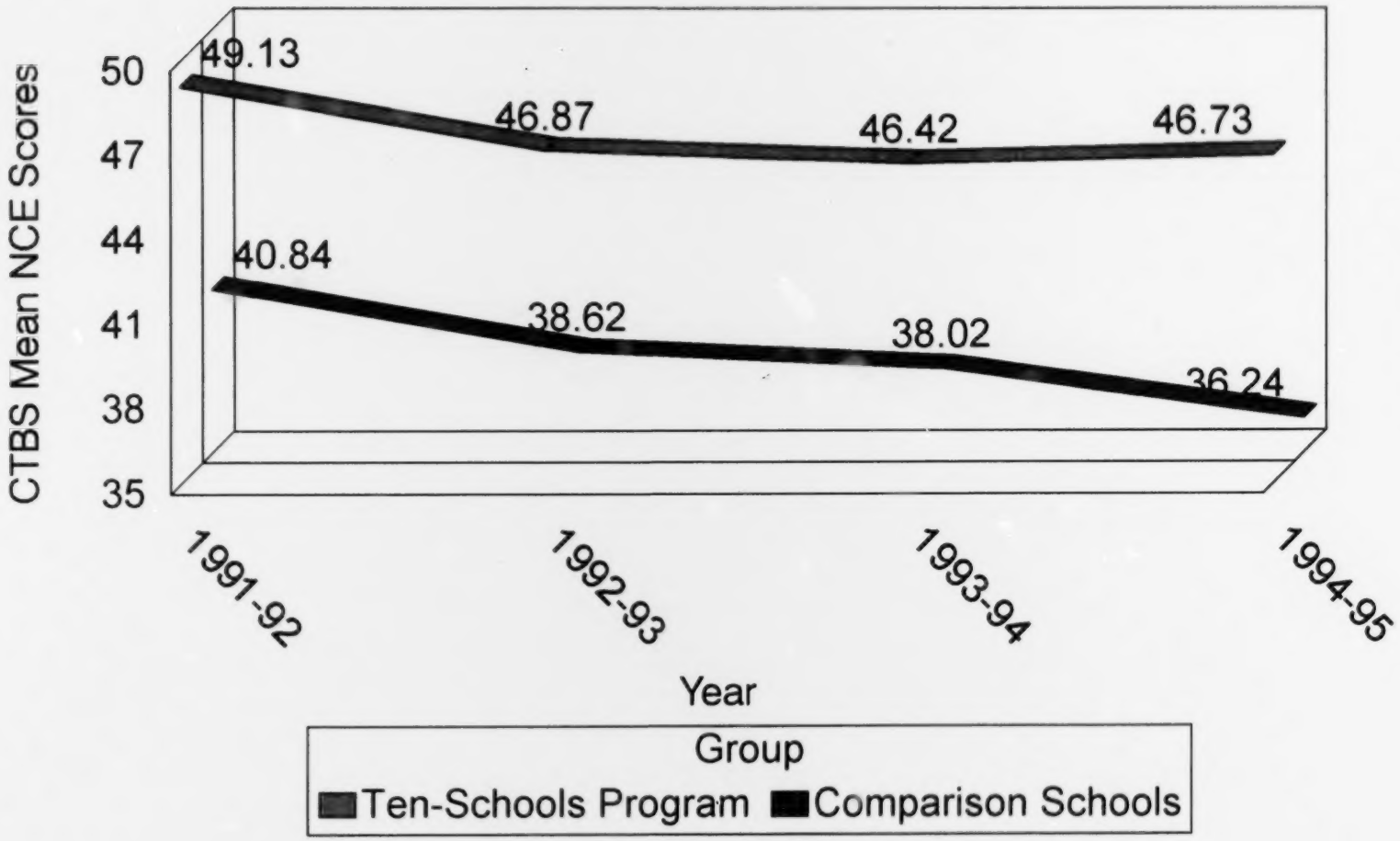

Figure C-11.

Second Grade CTBS Language Achievement Scores

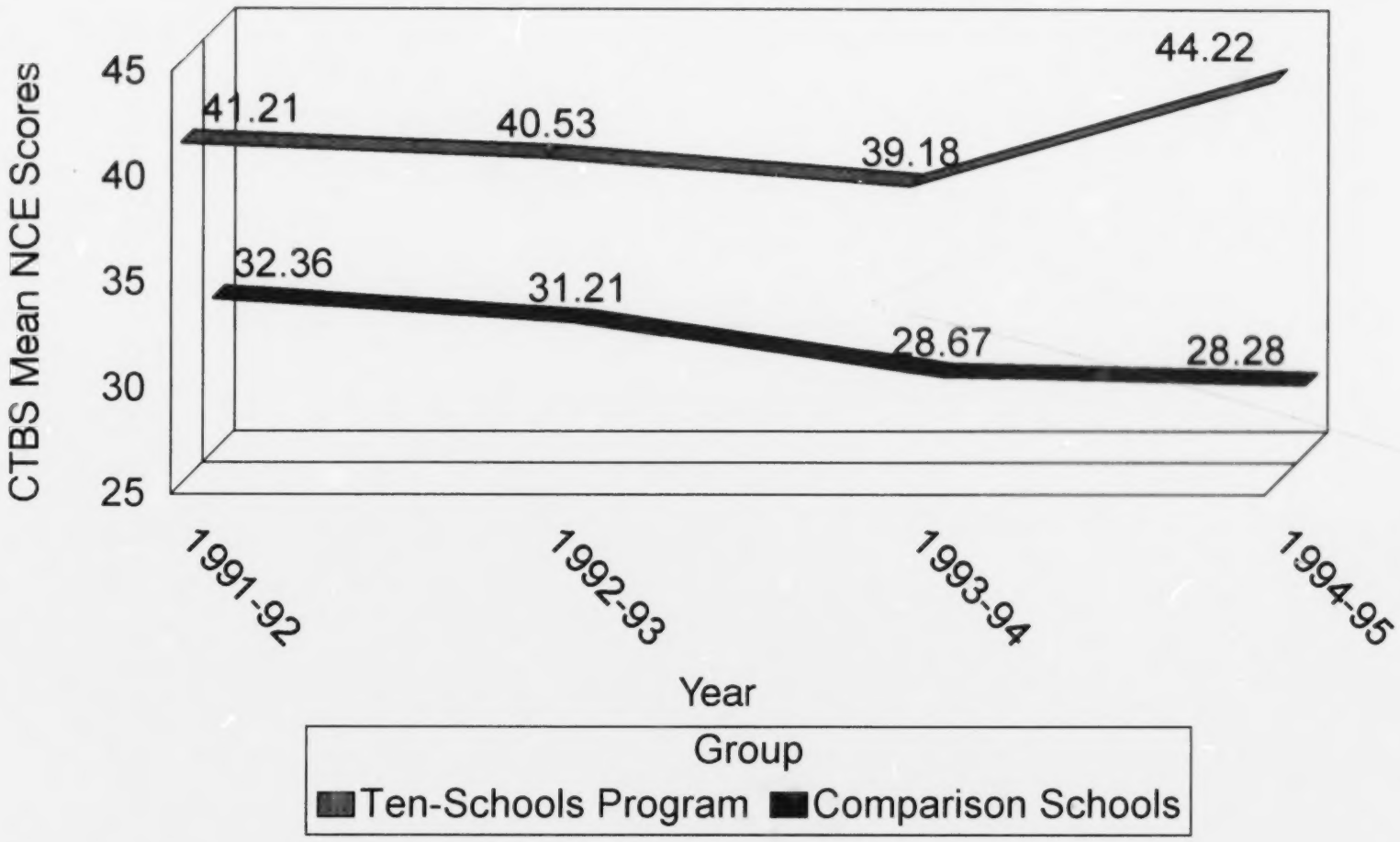

Figure C-12.

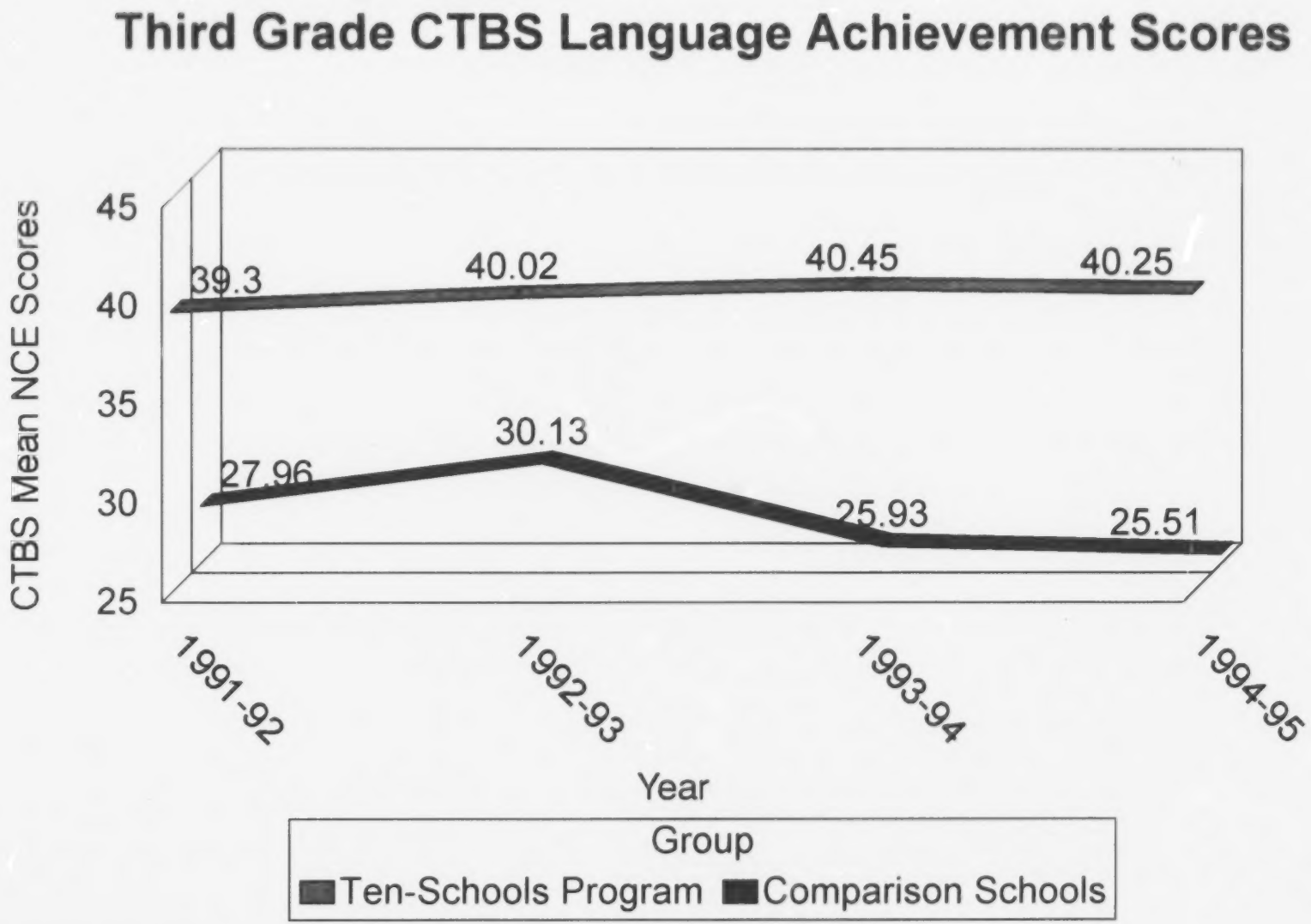
Third Grade CTBS Language Achievement Scores
CTBS Mean NCE Scores
45
40
35
30
25
39.3
40.02
40.45
40.25
27.96
30.13
25.93
25.51
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure C-13.

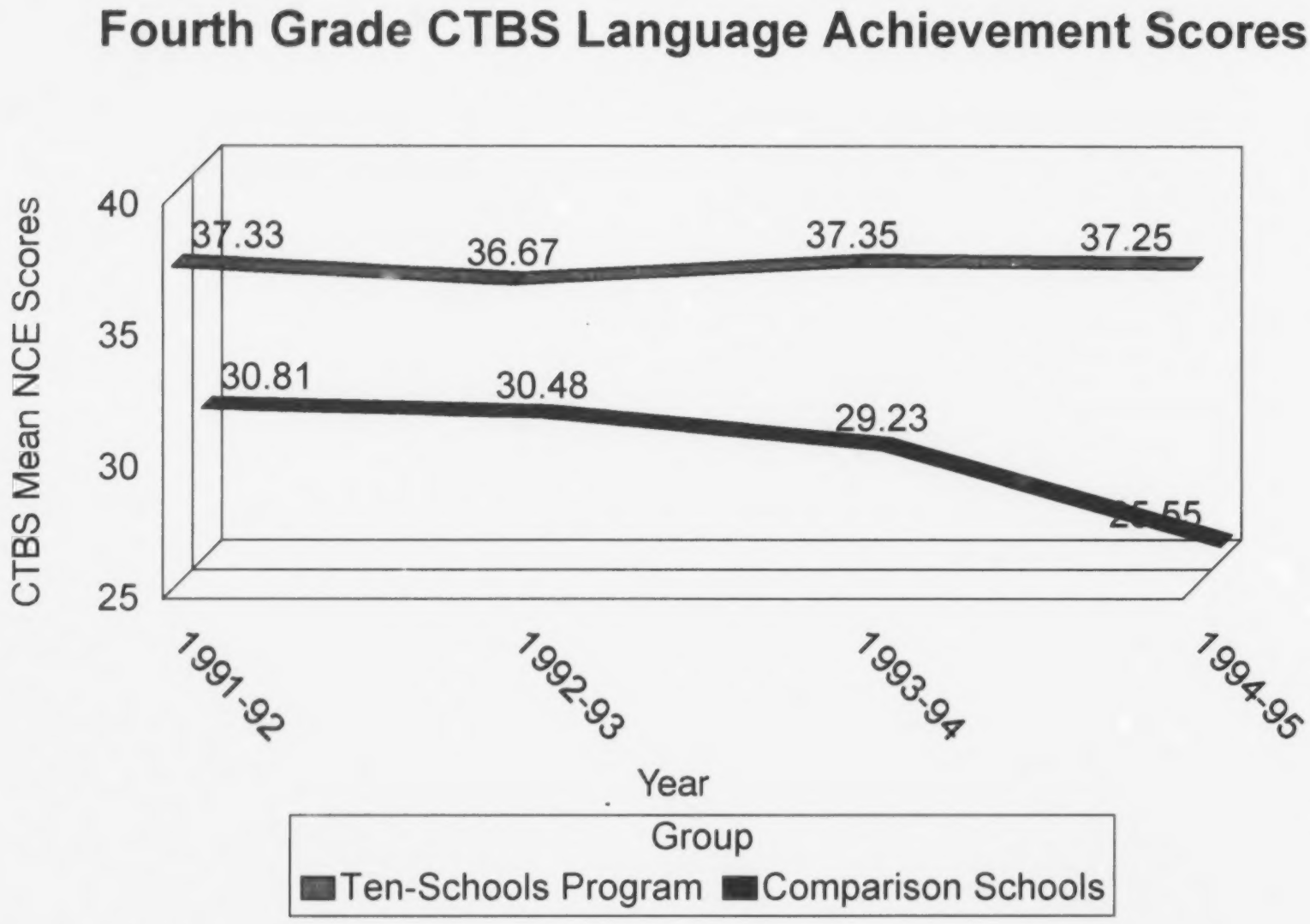
Fourth Grade CTBS Language Achievement Scores
CTBS Mean NCE Scores
40
35
30
25
37.33
36.67
37.35
37.25
30.81
30.48
29.23
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure C-14.

Fifth Grade CTBS Language Achievement Scores

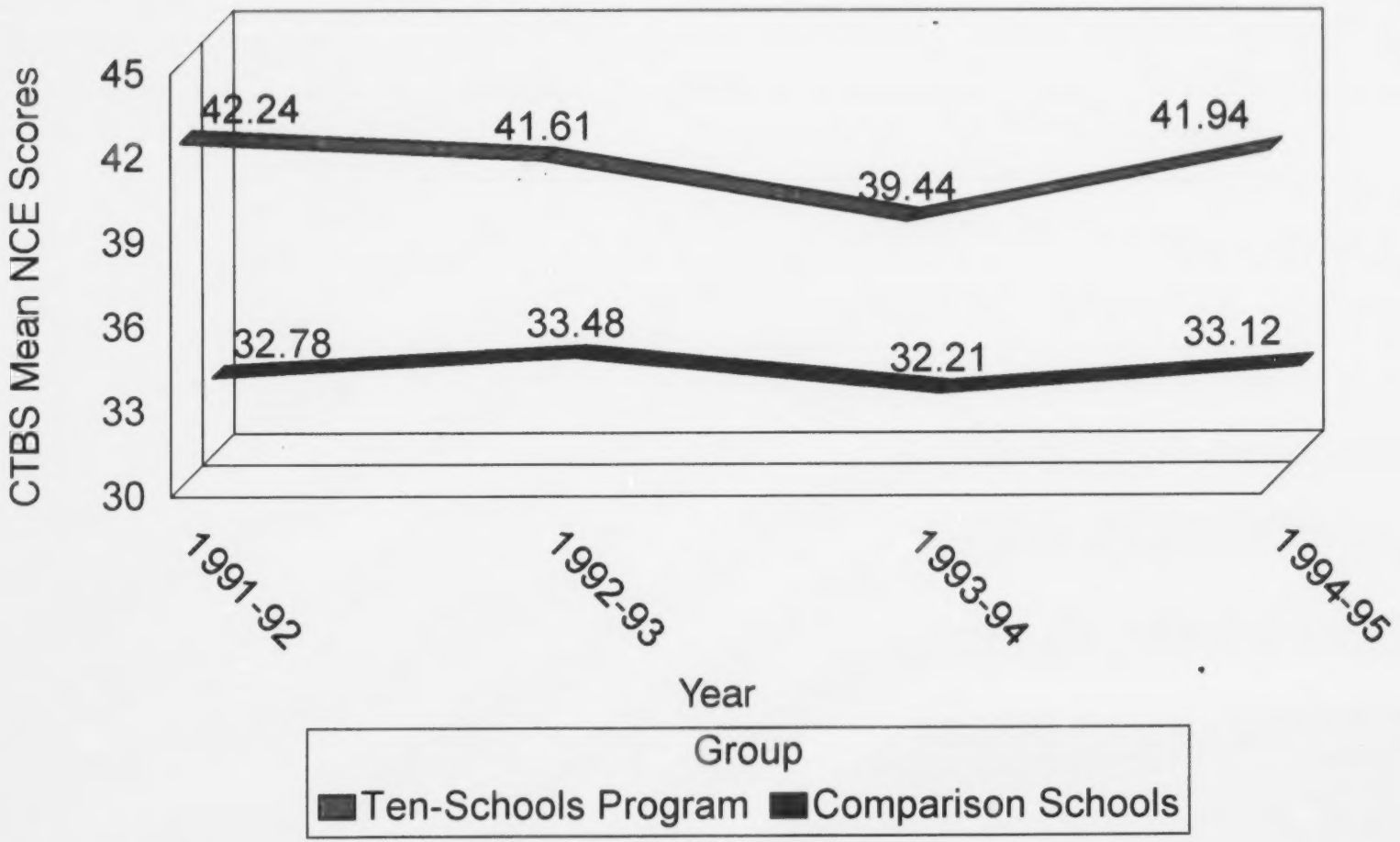

Figure C-15.

Appendix D

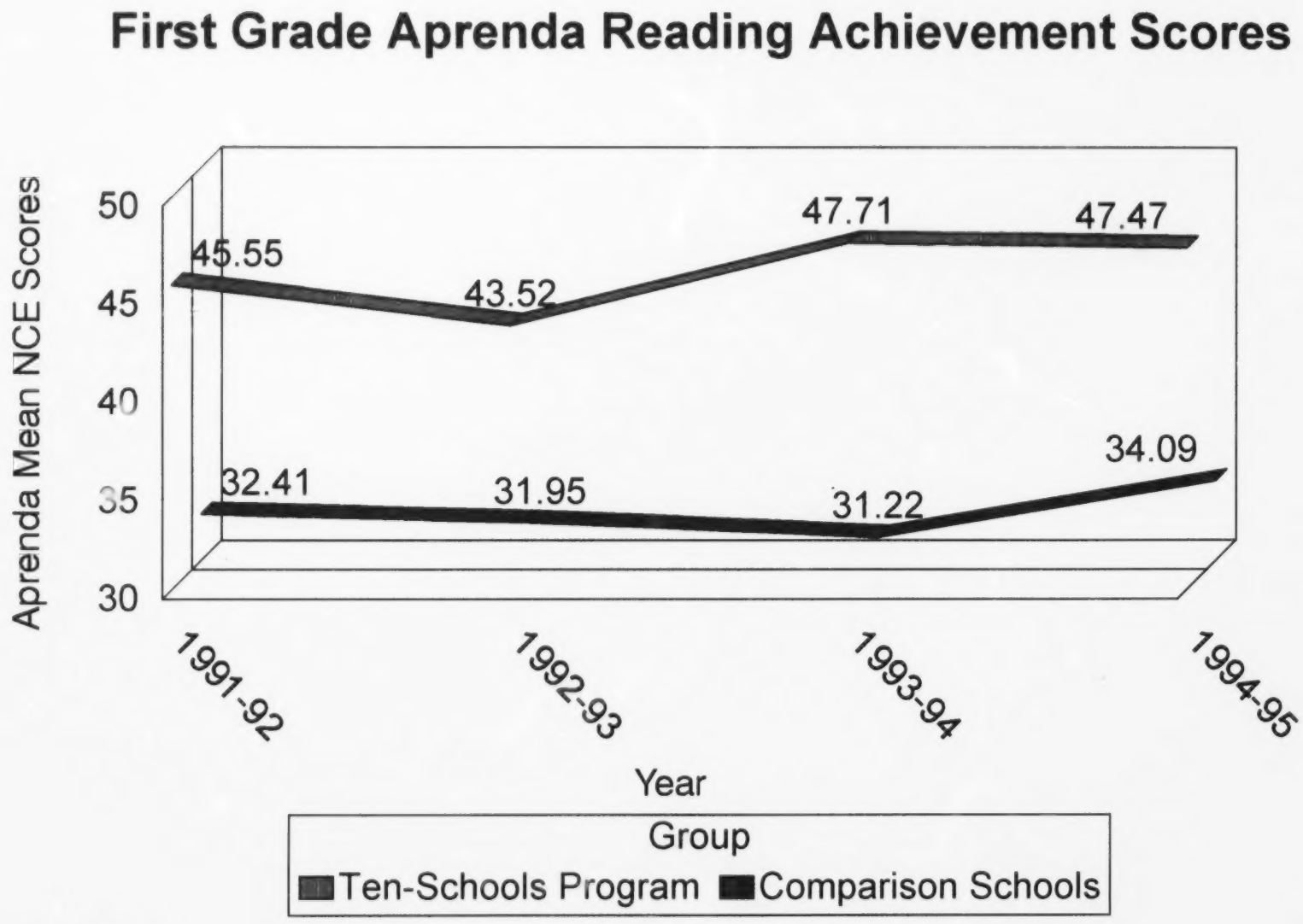
First Grade Aprenda Reading Achievement Scores
Aprenda Mean NCE Scores
50
45
40
35
30
45.55
43.52
47.71
47.47
32.41
31.95
31.22
34.09
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure D-1.

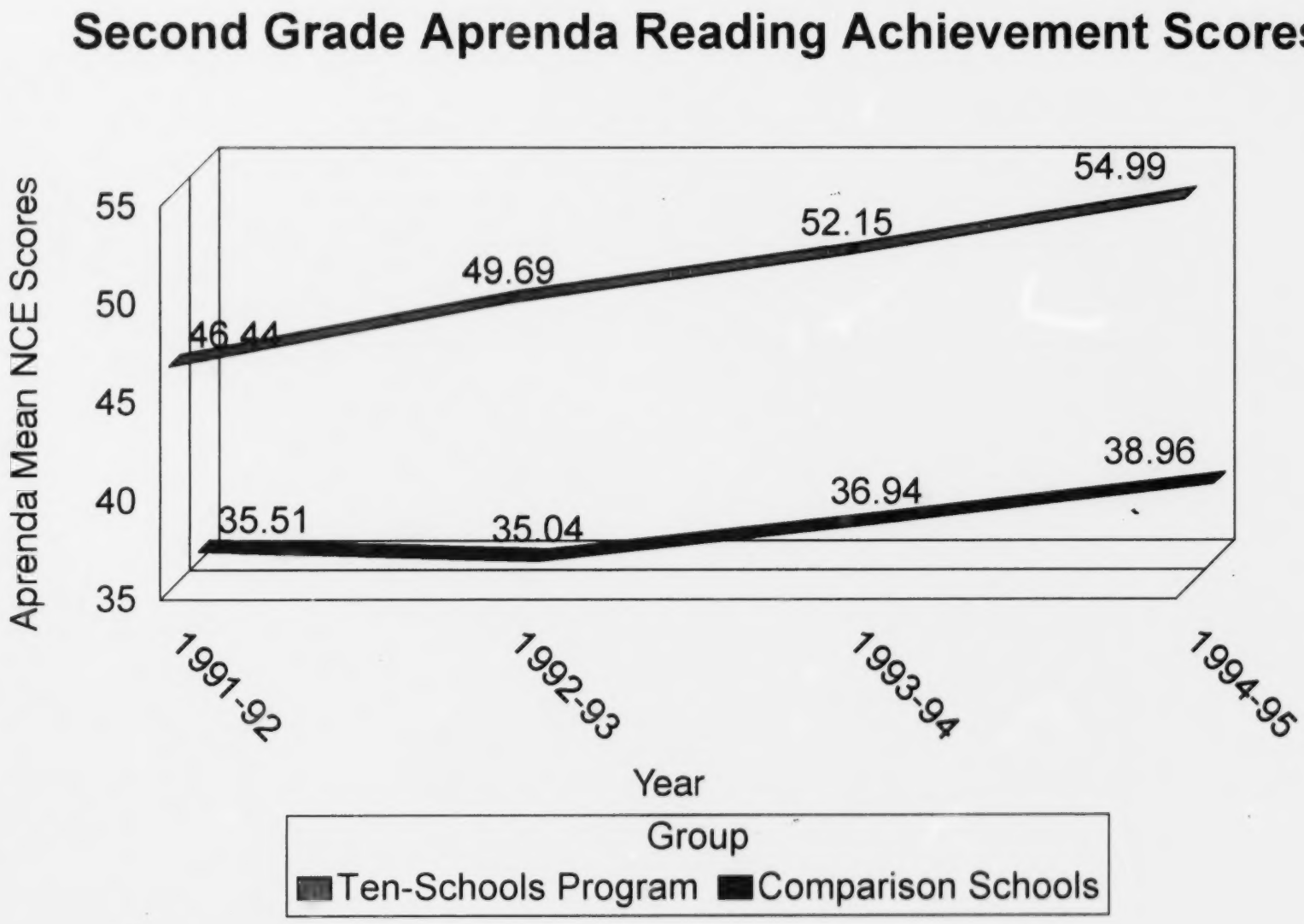
Second Grade Aprenda Reading Achievement Scores
Aprenda Mean NCE Scores
55
50
45
40
35
46.44
49.69
52.15
54.99
35.51
35.04
36.94
38.96
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure D-2.

Third Grade Aprenda Reading Achievement Scores

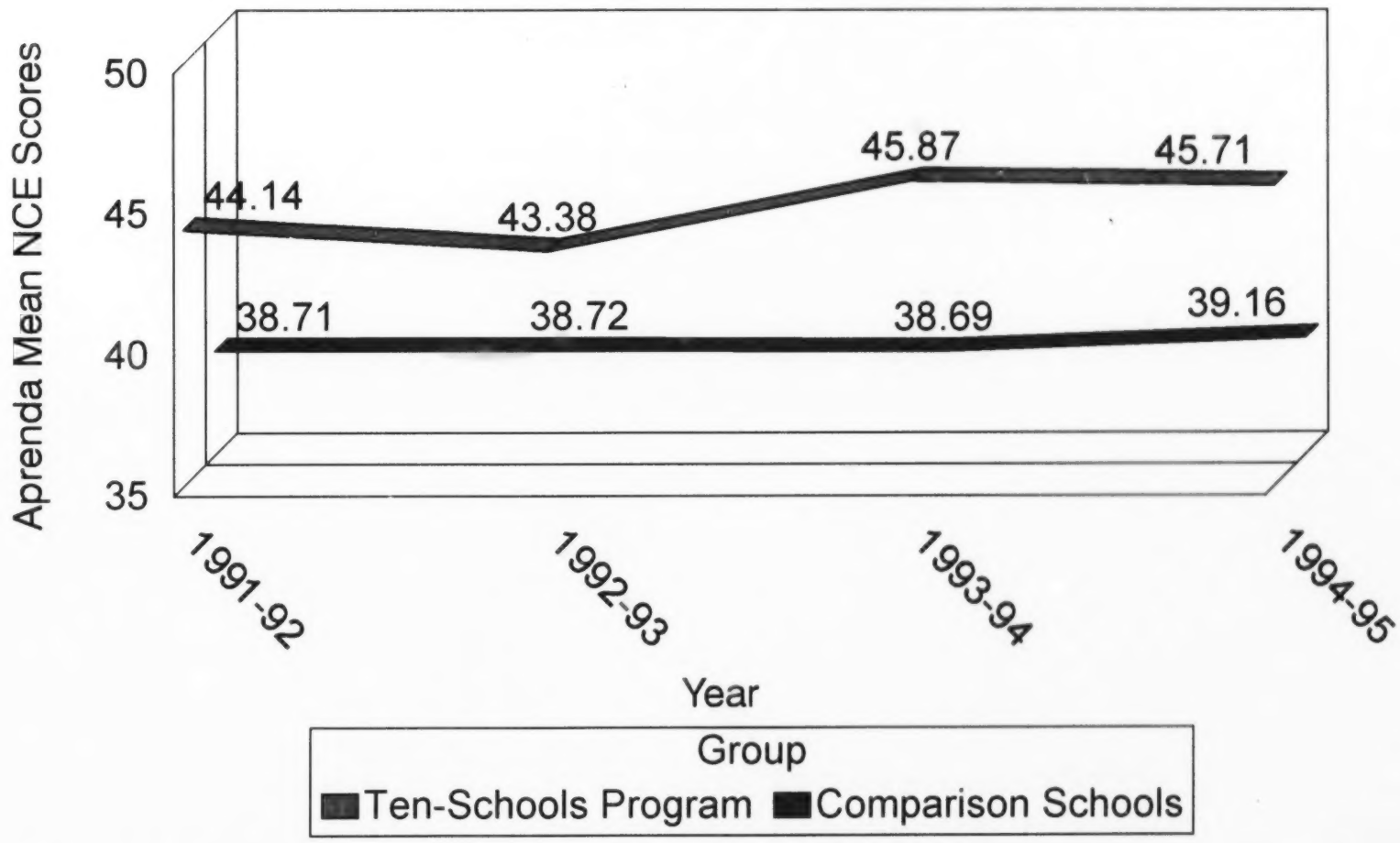

Figure D-3.

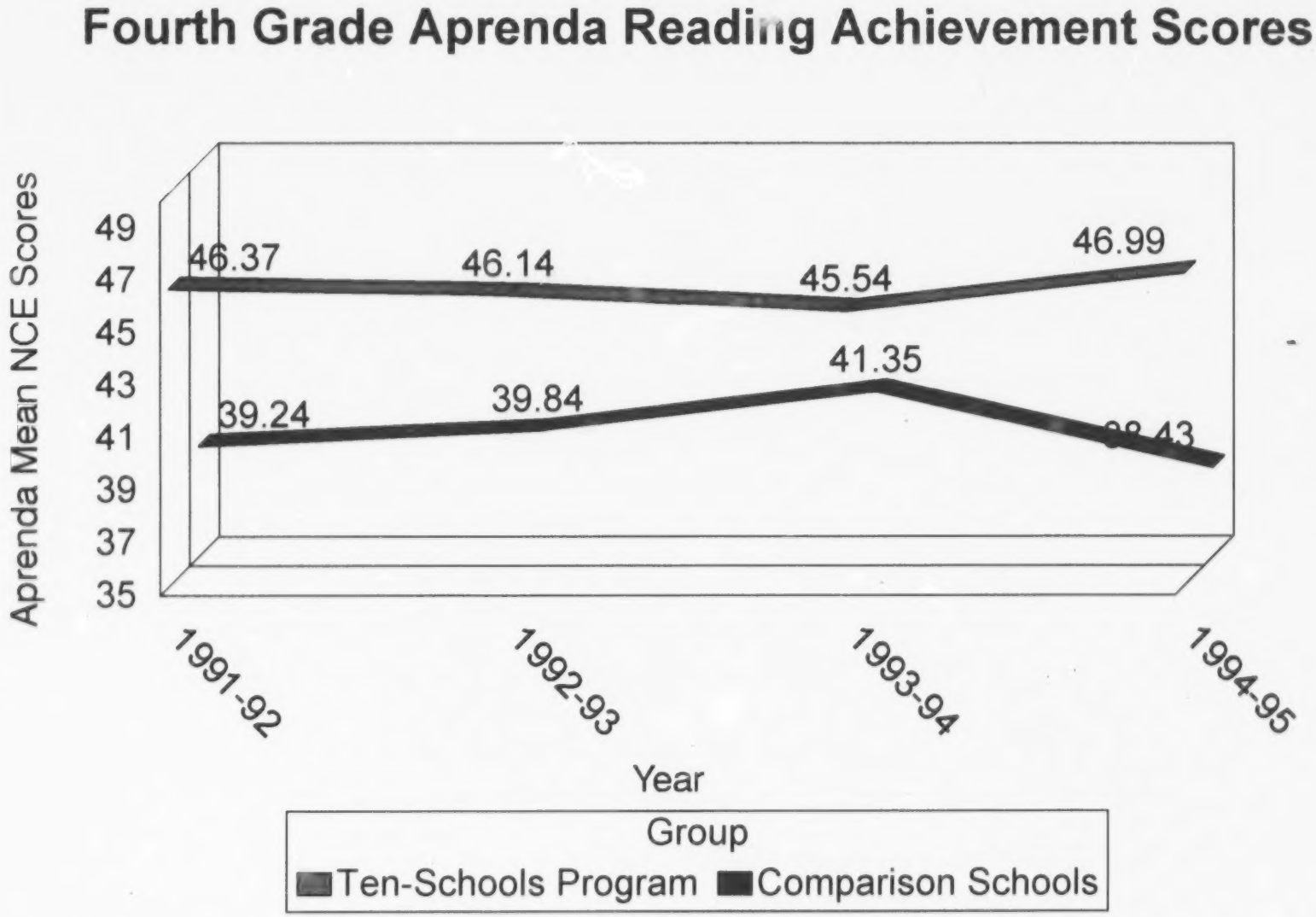
Fourth Grade Aprenda Reading Achievement Scores
Aprenda Mean NCE Scores
49
47
45
43
41
39
37
35
46.37
46.14
45.54
46.99
39.24
39.84
41.35
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure D-4

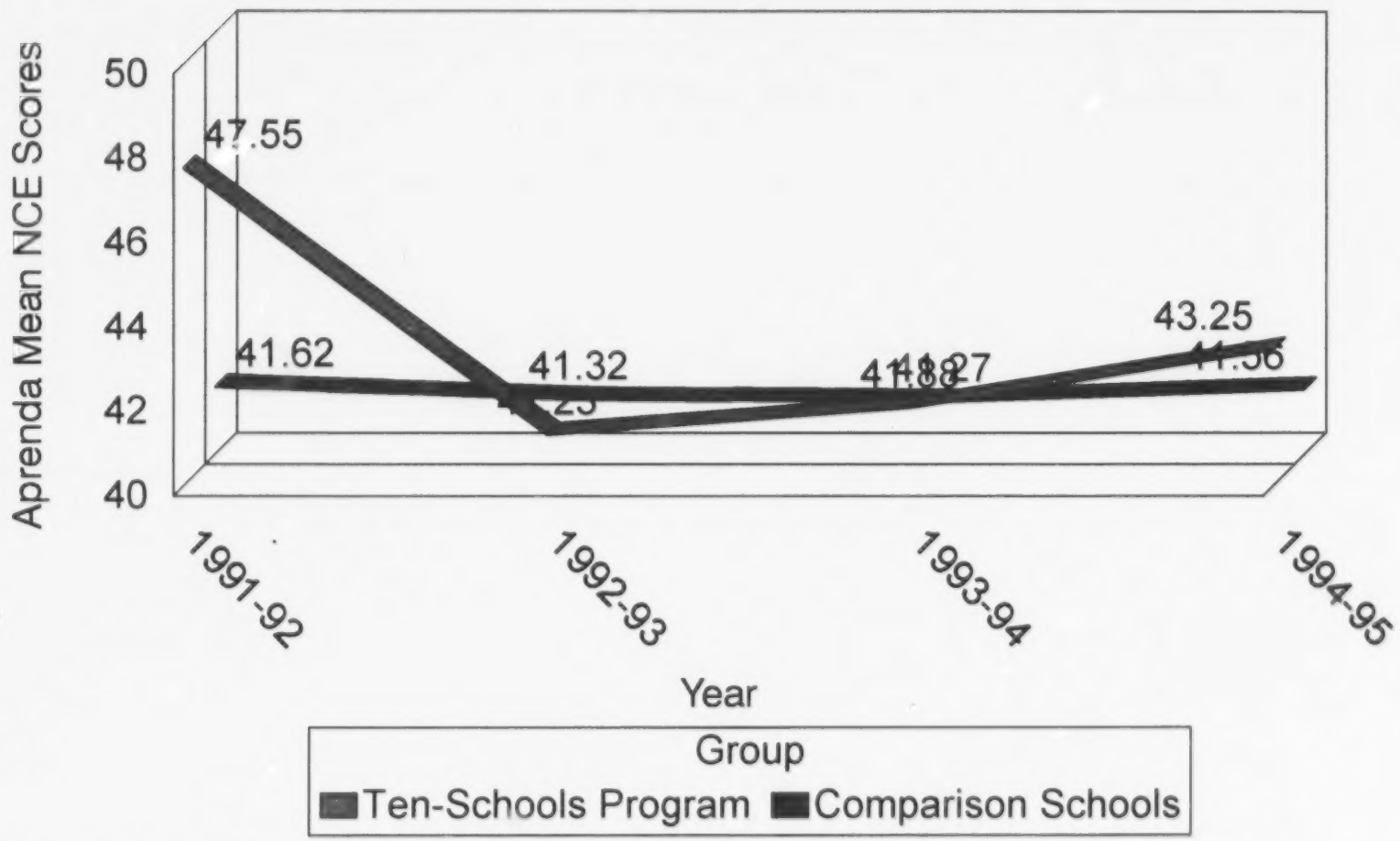
Fifth Grade Aprenda Reading Achievement Scores
Aprenda Mean NCE Scores
50
48
46
44
42
40
47.55
41.62
41.32
43.25
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure D-5.

First Grade Aprenda Mathematics Achievement Scores

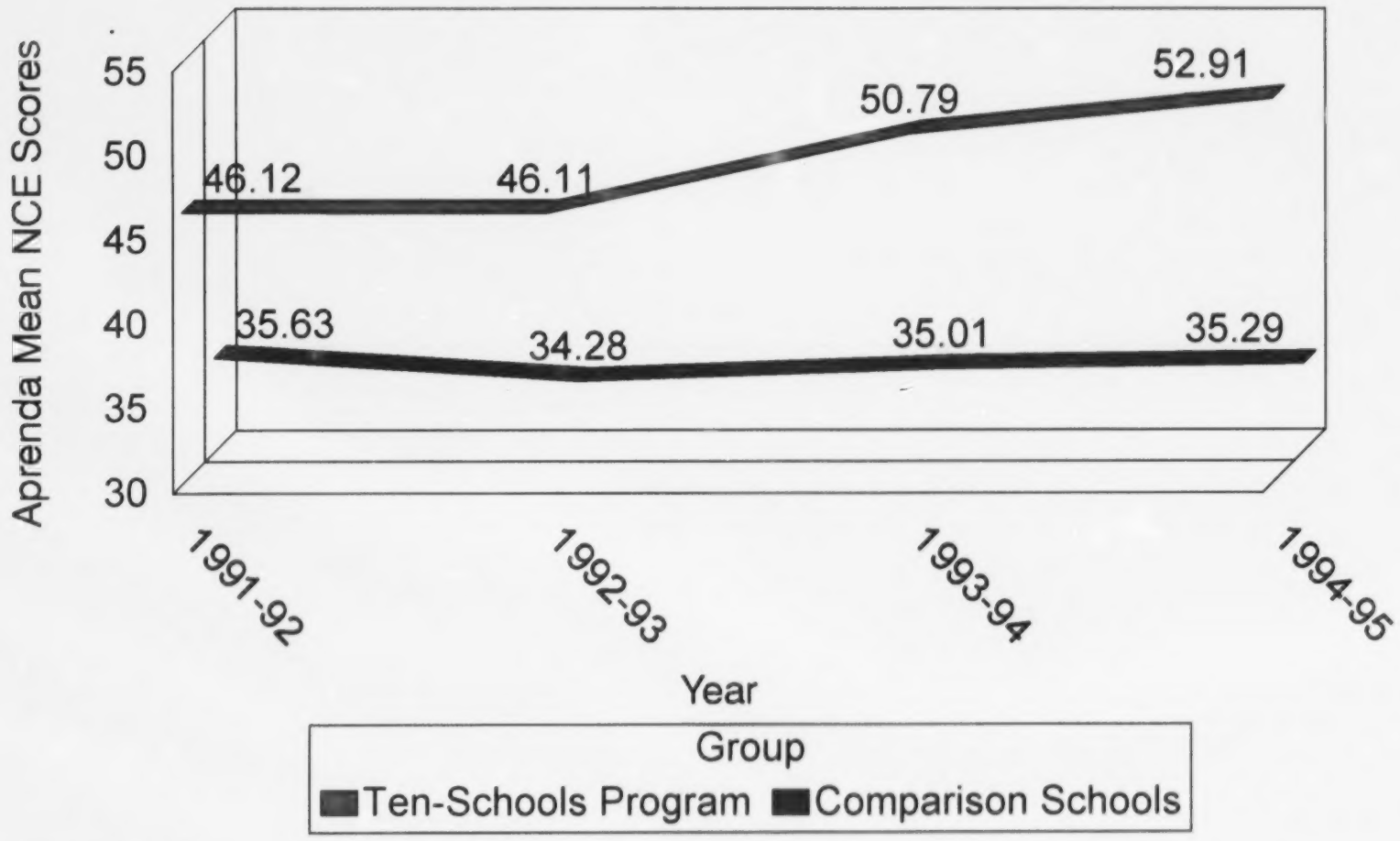

Figure D-6.

Second Grade Aprenda Mathematics Achievement Scores

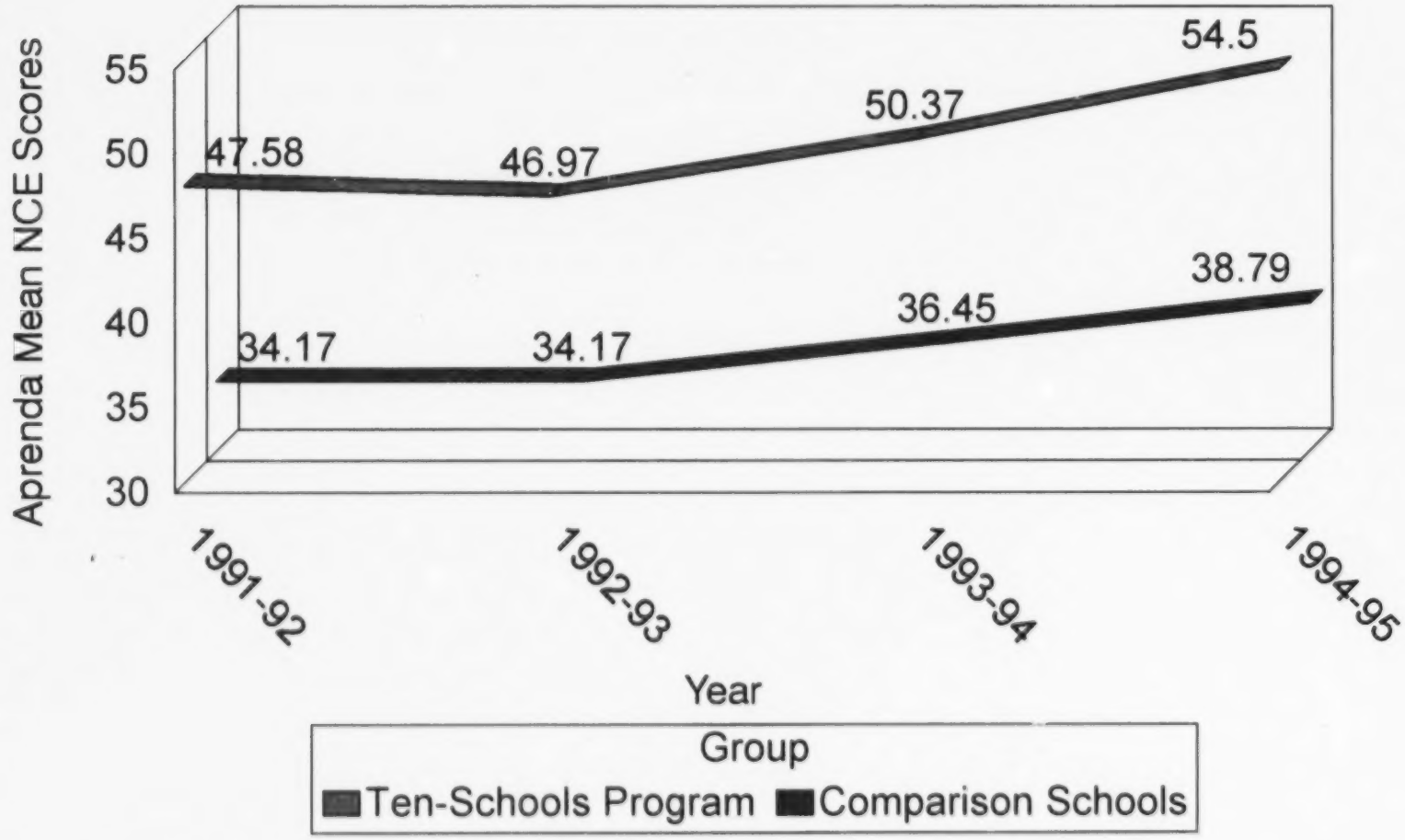

Figure D-7.

Third Grade Aprenda Mathematics Achievement Scores

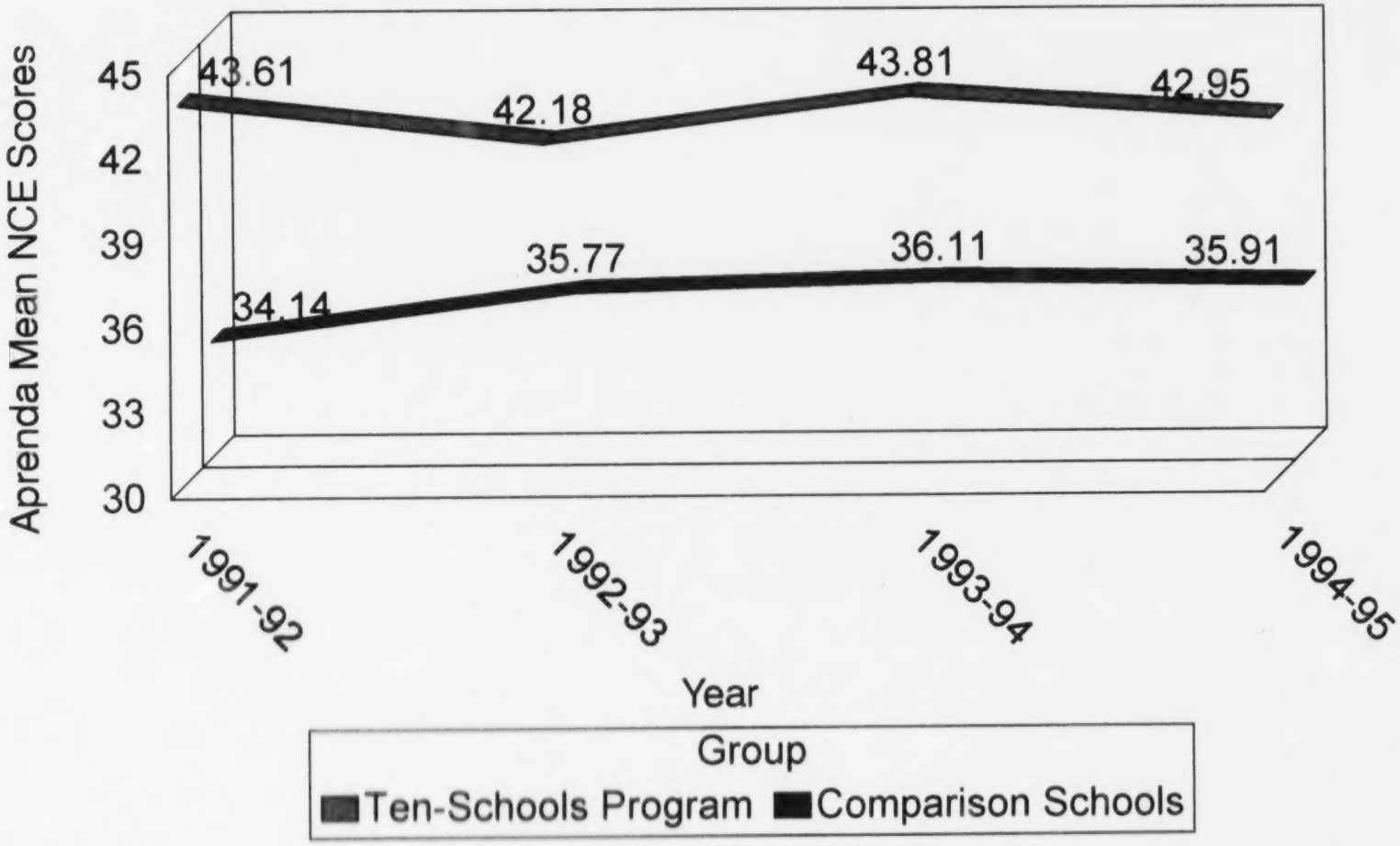

Figure D-8

129

Fourth Grade Aprenda Mathematics Achievement Scores

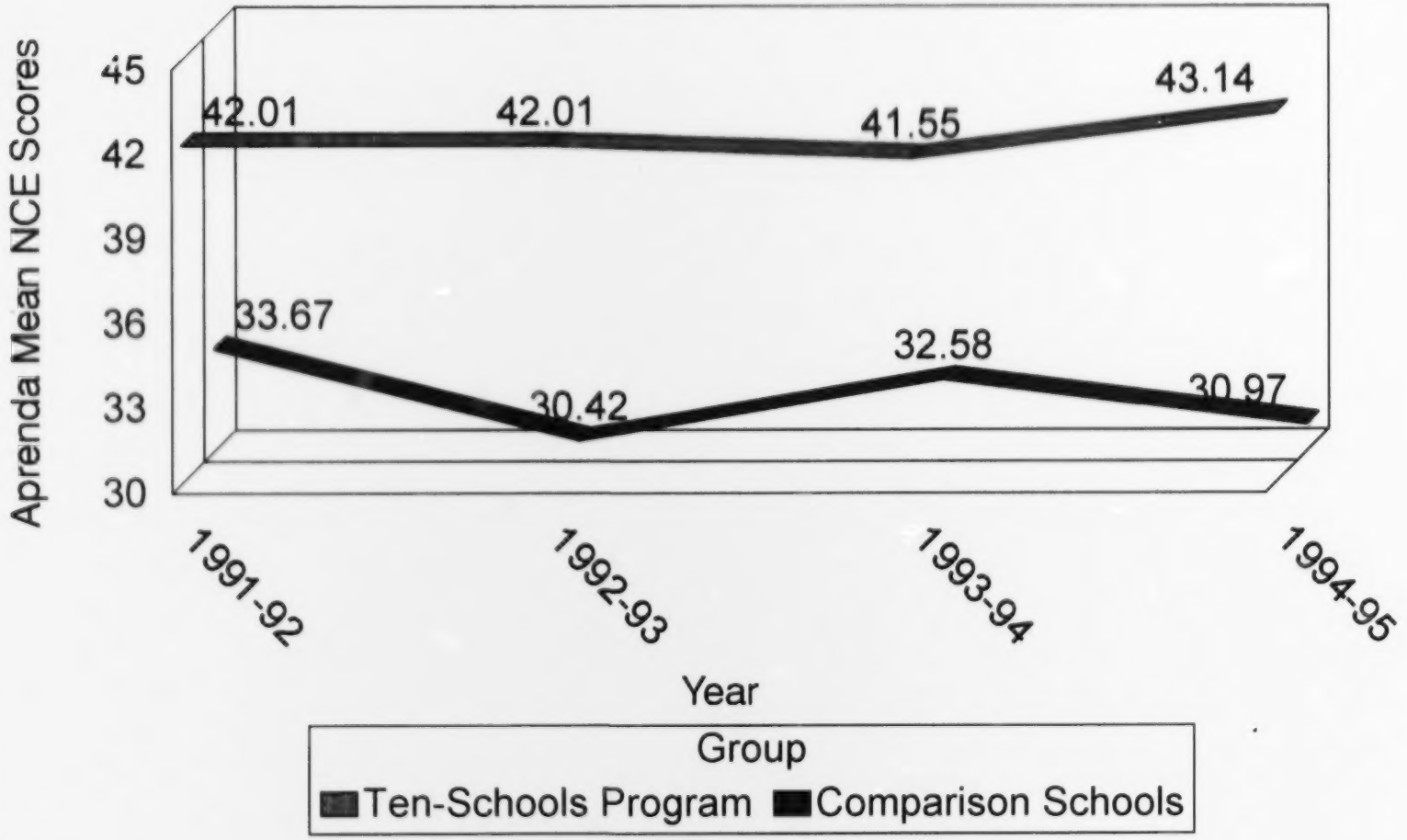

Figure D-9.

Fifth Grade Aprenda Mathematics Achievement Scores

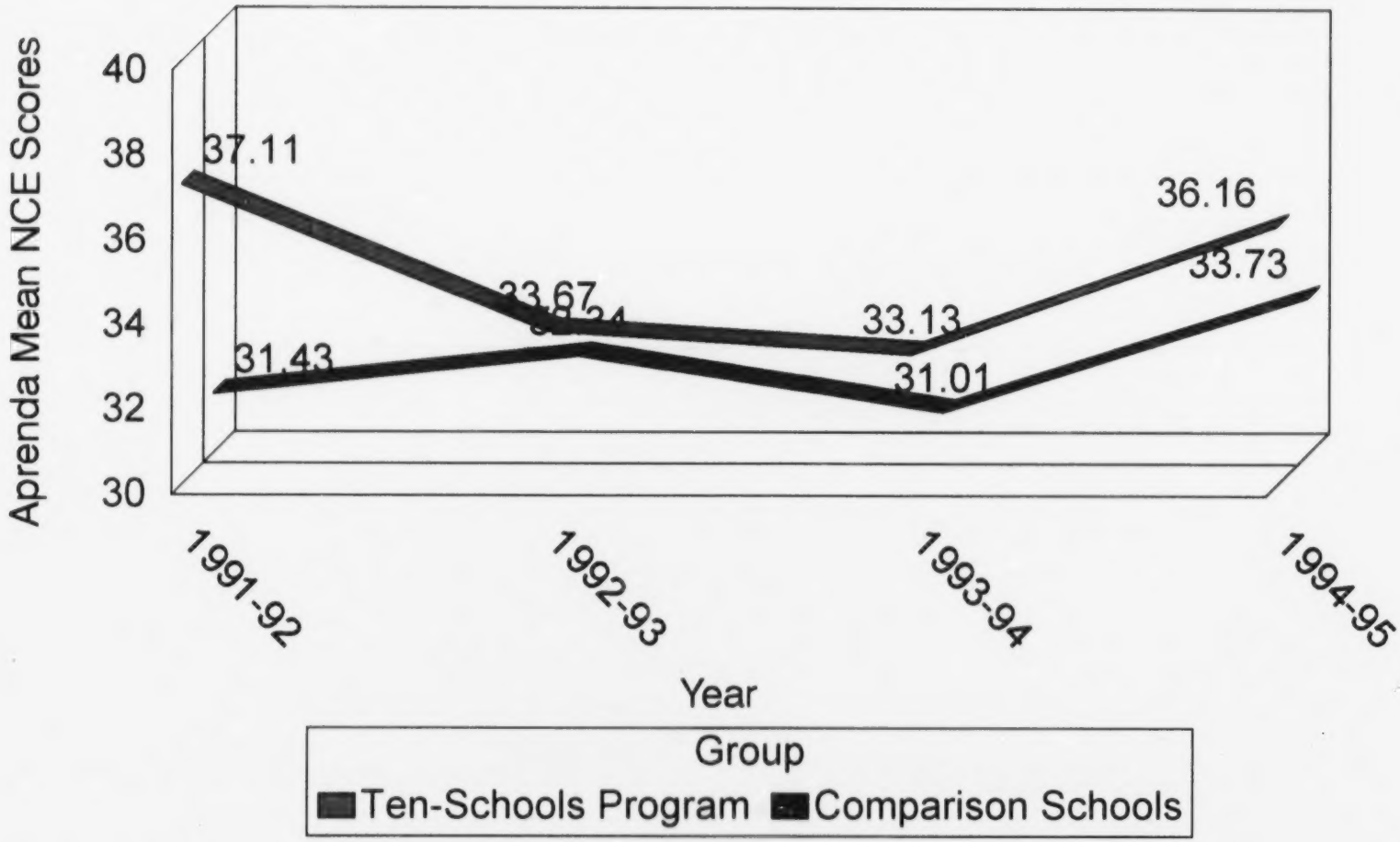

Figure D-10.

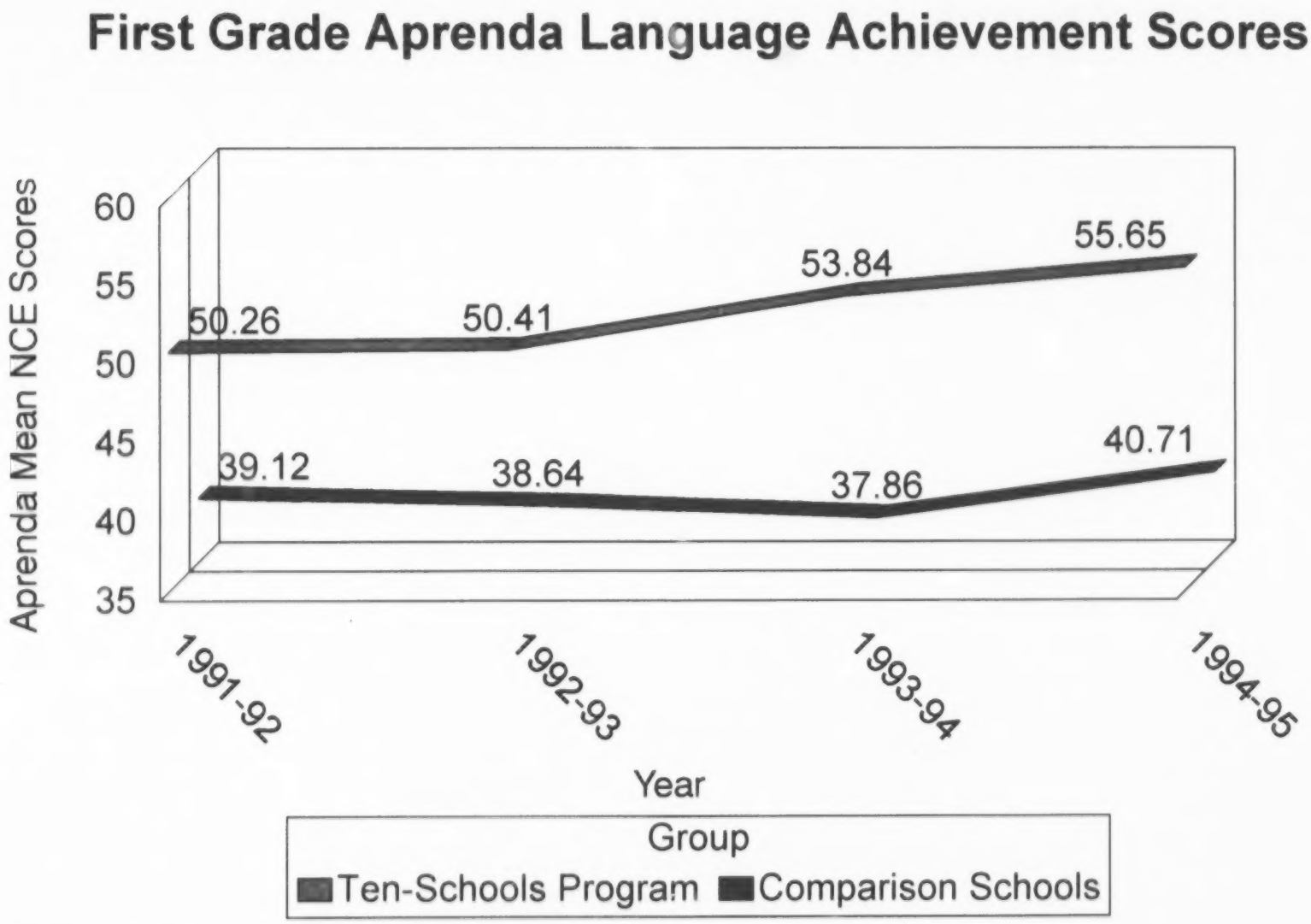
First Grade Aprenda Language Achievement Scores
Aprenda Mean NCE Scores
60
55
50
45
40
35
50.26
50.41
53.84
55.65
39.12
38.64
37.86
40.71
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure D-11.

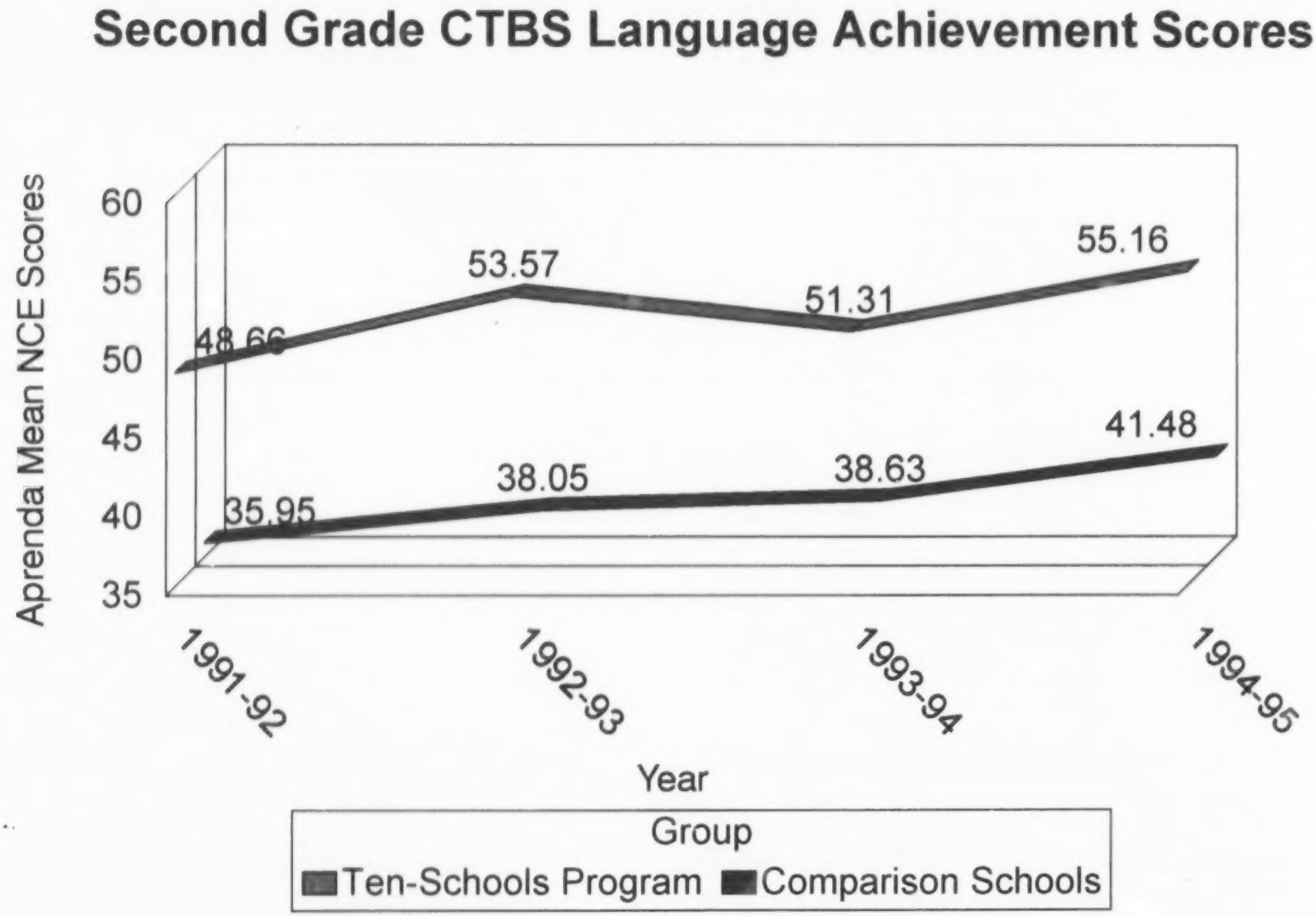
Second Grade CTBS Language Achievement Scores
Aprenda Mean NCE Scores
60
55
50
45
40
35
48.66
53.57
51.31
55.16
35.95
38.05
38.63
41.48
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure D-12.

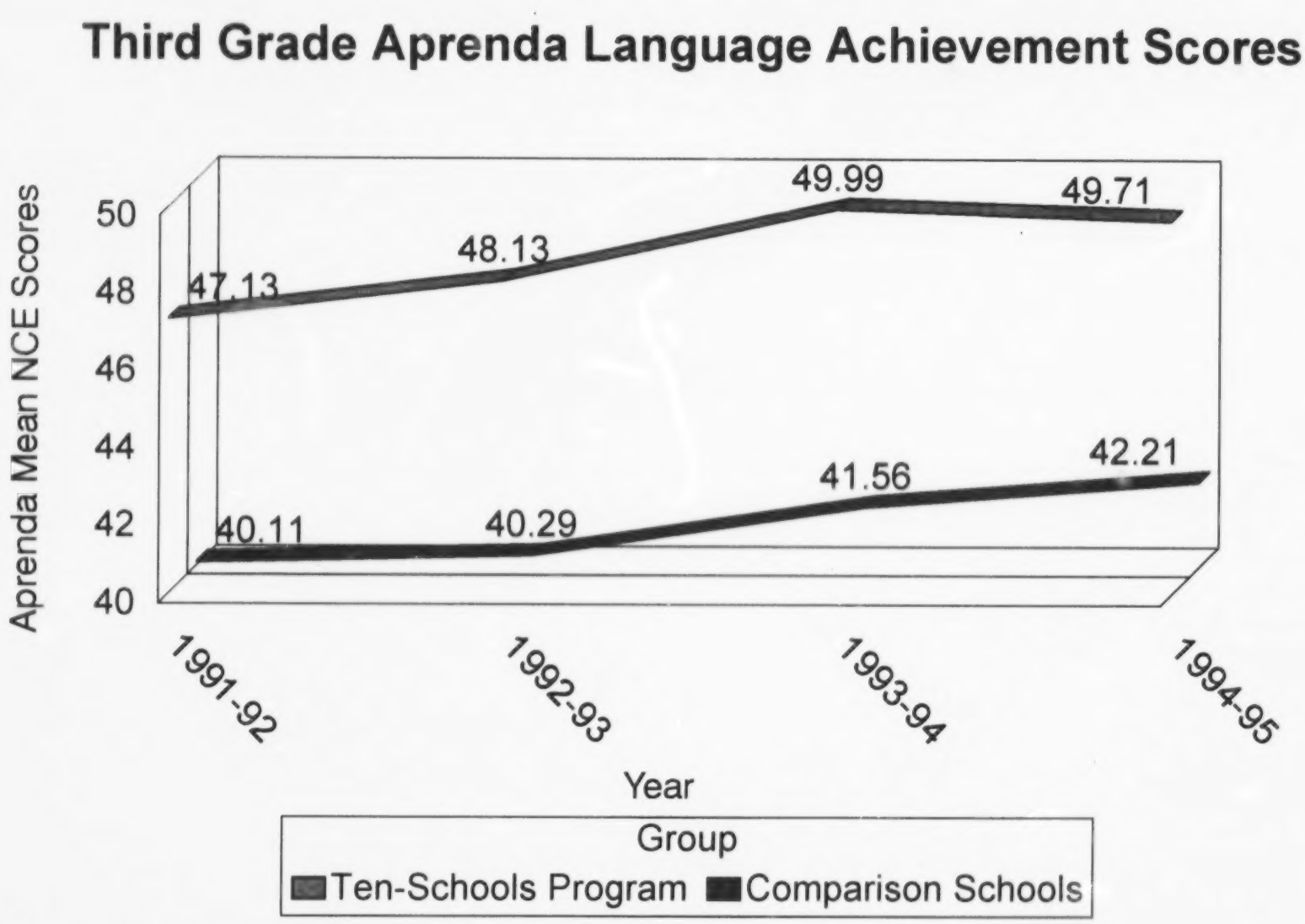
Third Grade Aprenda Language Achievement Scores
Aprenda Mean NCE Scores
50
48
46
44
42
40
47.13
48.13
49.99
49.71
40.11
40.29
41.56
42.21
1991-92
1992-93
1993-94
1994-95
Year
Group
Ten-Schools Program
Comparison Schools

Figure D-13

Fourth Grade Aprenda Language Achievement Scores

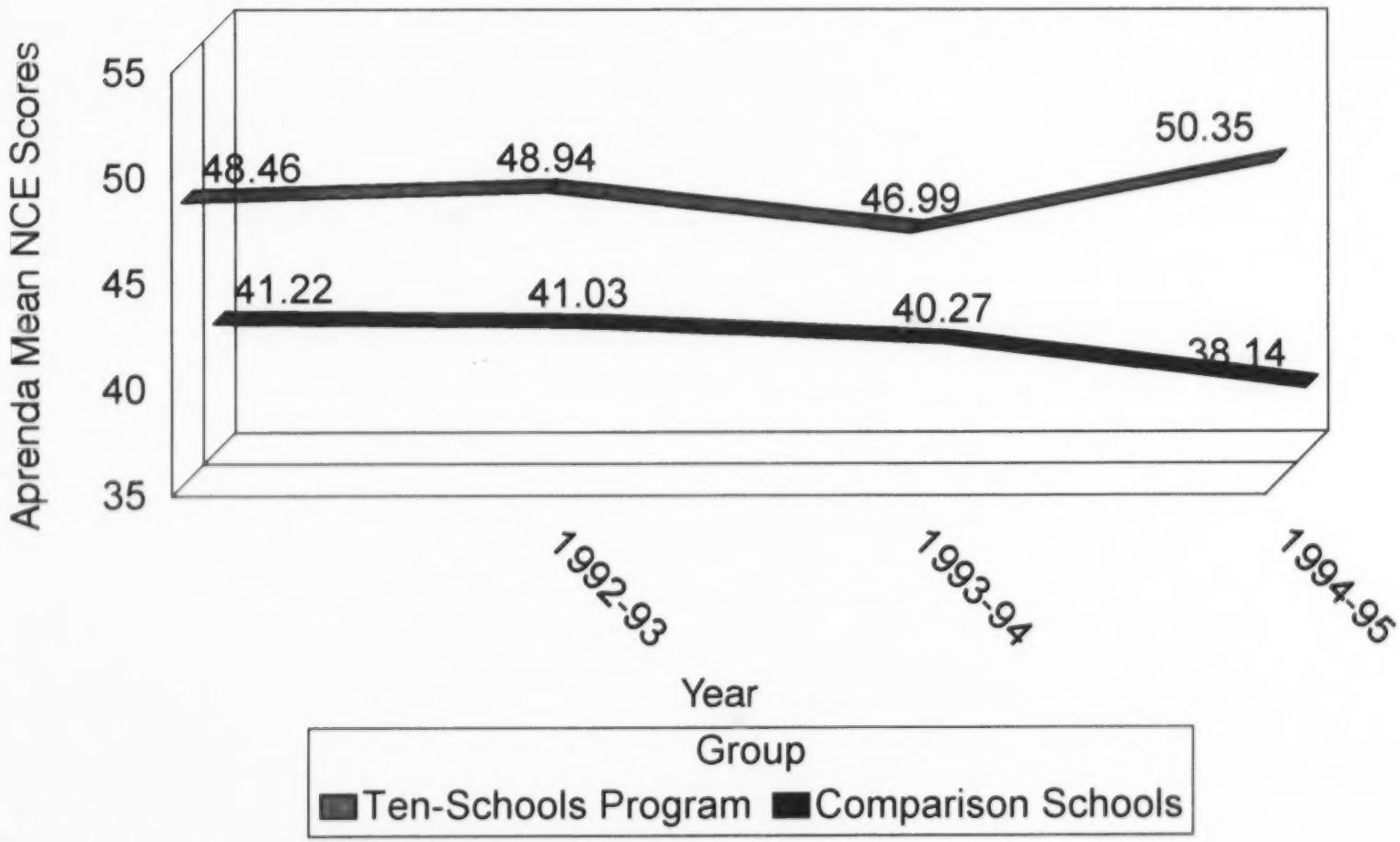

Figure D-14

Fifth Grade Aprenda Language Achievement Scores

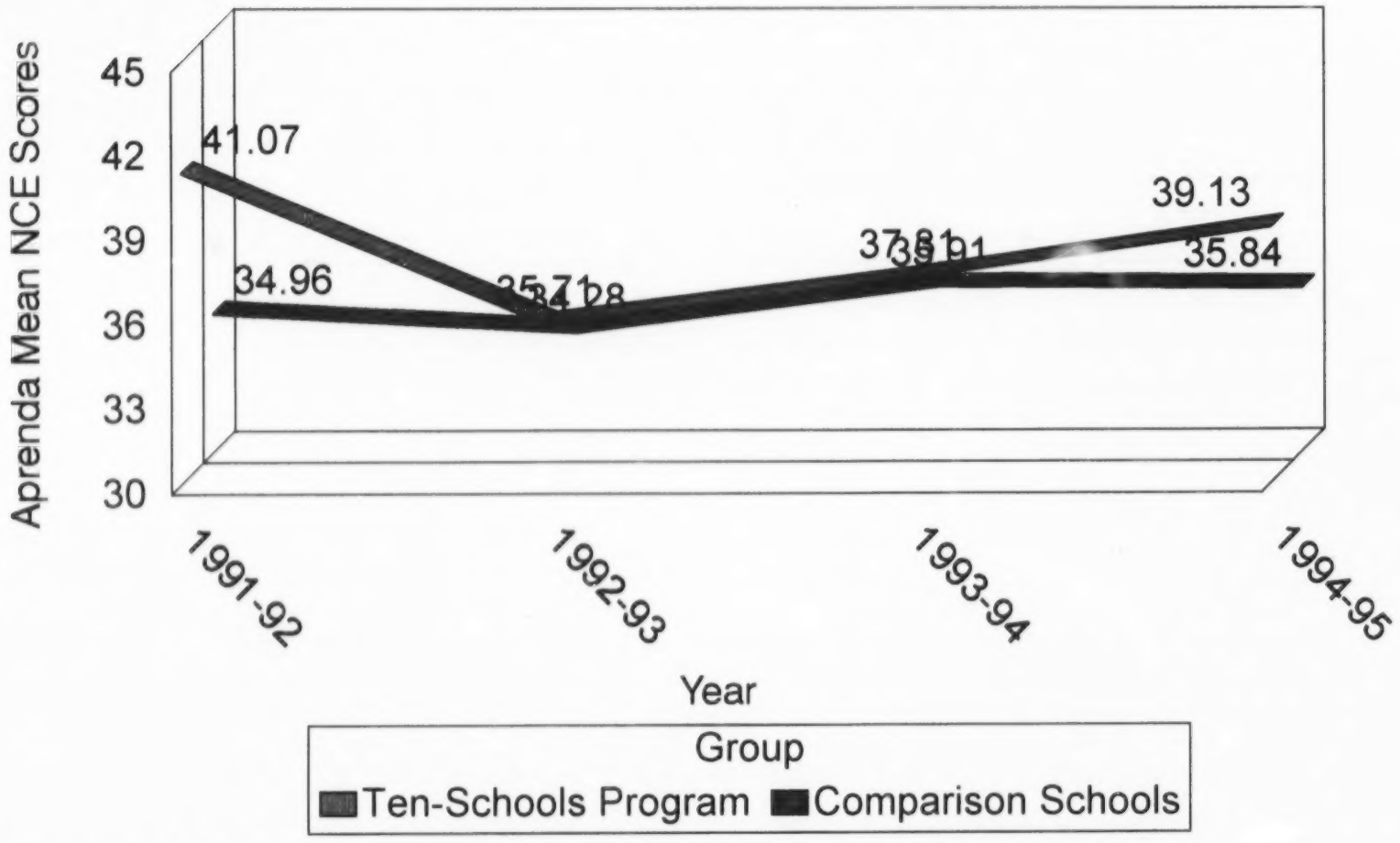

Figure D-15.

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